

Annual Report 2016

**BB** Biotech

## Your investment opportunity

Despite remarkable progress in the research and development of new drugs and treatments in the global healthcare system, many severe diseases still have no real cure to this day. These include various types of cancer and chronic infectious diseases. Demographic transition toward a higher life expectancy and an increasing proportion of elderly people in the population are factors contributing to a rising prevalence of age-related diseases. The result is a massive increase in healthcare spending, which in turn emphasizes the need for efficient and effective medicines. Whereas the strength of pharmaceutical companies tends to lie in the global marketing and sale of medicinal products, biotech companies' biggest asset is their high innovation capabilities. Biotech products target the root causes of disease and in some cases have come up with new therapeutic approaches for diseases that may only have been amenable to symptom control in the past. Another trend favoring the biotech industry is the fact that many big pharma players are facing sharp revenue losses as a result of patent expirations. To fill their product pipelines, they are buying innovative biotech products for which they are prepared to pay high premiums. With increasing numbers of biotech companies, launching drugs on the market and reaching profitability, the industry is maturing steadily and managing to do so without disappointing expectations regarding innovative drug development activities and growth potential. This is what makes the biotech sector an attractive and fundamentally strong, high-growth sector for investors.

## Our investment skills

BB Biotech is one of the largest and most experienced biotech investors in Europe and can look back on a track record of more than 20 years. The challenging task of picking the right stocks within the dynamic, constantly changing field of biotechnology is met by BB Biotech's competent Investment Management Team consisting of biochemists, molecular biologists, doctors, and economists. Bringing together scientific and financial professionals facilitates the evaluation of complex issues and ensures a sound assessment of the prospects that drug candidates have as they move through the R&D pipeline and into the market. Drug development entails risks that are difficult to assess for investors with a broader focus. BB Biotech's portfolio managers are supported in their daily work through regular meetings with the highly qualified medical and financial experts on its Board of Directors.

## Our investment solution – BB Biotech

BB Biotech invests in carefully screened and selected biotechnology firms with a long-term time horizon. It focuses on companies with products that are already in the marketplace and generating income and on companies with promising drug candidates in advanced stages of development. During the past years a number of new product launches by biotech companies attracted widespread attention and buoyed the entire sector. BB Biotech was able to profit from these developments through its carefully constructed investment portfolio. We expect to see a growing number of launches of innovative products in the coming year and have positioned ourselves accordingly, so BB Biotech can keep up the momentum and generate more value for its shareholders. Besides its investments in large, fast-growing biotech companies, BB Biotech holds numerous interests in smaller biotech companies and provides them with the necessary capital to pursue their research projects.

### General information

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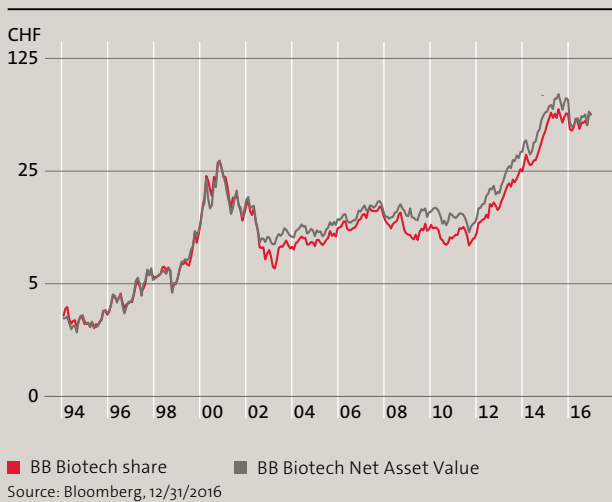
|                              |   |
|------------------------------|---|
| <b>Board of Directors</b>    | Dr. Erich Hunziker (Chairman)<br>Dr. Clive A. Meanwell<br>Prof. Dr. Dr. Klaus Strein                        |
| <b>Investment Management</b> | Dr. Daniel Koller (Head)<br>Dallas Webb<br>Felicia Flanigan<br>Dr. Stephen Taubenfeld<br>Dr. Christian Koch |
| <b>Portfolio Management</b>  | Jan Bootsma<br>Nathalie Isidora-Kwidama<br>Hugo van Neutegem<br>Rudy Le Blanc                               |
| <b>Legal structure</b>       | Incorporated company  |
| <b>Listing</b>               | Swiss stock exchange (BION SW)<br>German stock exchange (BBZA GY)<br>Italian stock exchange (BB IM)         |
| <b>Foundation</b>            | November 9, 1993  |
| <b>Share type</b>            | Registered shares   |
| <b>Share structure</b>       | 55.4 mn shares  |
| <b>ISIN</b>                  | CH0038389992  |
| <b>Security number (CH)</b>  | 3 838 999   |
| <b>Security number (G/I)</b> | AONFN3  |
| <b>Investor Relations</b>    | Dr. Silvia Schanz<br>Claude Mikkelsen<br>Maria-Grazia Iten-Alderuccio                                       |
| <b>Media Relations</b>       | Tanja Chicherio   |

## Multi-year comparison

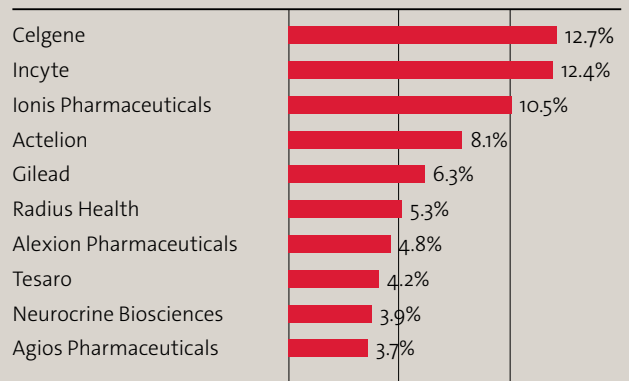
|   | 2016        | 2015        | 2014        | 2013        | 2012         |
|---|-------------|-------------|-------------|-------------|--------------|
| Market capitalization at the end of the period (in CHF mn)      | 3 052.5     | 3 463.2     | 2 799.0     | 1 668.5     | 1 150.5      |
| Net Asset Value at the end of the period (in CHF mn)            | 3 003.0     | 3 978.2     | 3 492.5     | 2 118.9     | 1 234.0      |
| Number of shares (in mn) <sup>1)</sup>                          | 55.4        | 59.3        | 59.3        | 59.3        | 65.0         |
| Trading volume (in CHF mn)                                      | 3 204.5     | 6 265.2     | 3 186.6     | 1 289.3     | 948.9        |
| Profit/(loss) (in CHF mn)                                       | (802.1)     | 652.8       | 1 470.1     | 931.8       | 367.8        |
| Closing price at the end of the period in CHF <sup>1)</sup>     | 55.10       | 58.45       | 47.24       | 28.16       | 17.70        |
| Closing price (G) at the end of the period in EUR <sup>1)</sup> | 51.70       | 53.99       | 39.60       | 23.04       | 14.51        |
| Closing price (I) at the end of the period in EUR <sup>1)</sup> | 51.60       | 54.18       | 39.34       | 23.08       | 14.58        |
| Stock performance (incl. distributions)                         | 0.3%        | 28.2%       | 75.1%       | 66.0%       | 42.7%        |
| High/low share price in CHF <sup>1)</sup>                       | 58.20/40.78 | 70.25/46.48 | 48.16/26.74 | 29.38/17.90 | 19.36/12.40  |
| High/low share price in EUR <sup>1)</sup>                       | 53.98/36.74 | 66.02/39.39 | 39.98/21.82 | 23.94/14.69 | 16.048/10.11 |
| Premium/(discount) (annual average)                             | (5.1%)      | (17.6%)     | (22.1%)     | (23.1%)     | (21.3%)      |
| Cash distribution / dividend in CHF (*proposal) <sup>1)</sup>   | 2.75*       | 2.90        | 2.32        | 1.40        | 0.90         |
| Degree of investment (quarterly figures)                        | 109.9%      | 101.0%      | 104.6%      | 104.5%      | 109.0%       |
| Total Expense Ratio (TER) p.a.                                  | 1.28%       | 1.13%       | 1.14%       | 1.02%       | 1.69%        |

<sup>1)</sup> The five-for-one share split as at March 29, 2016, is accounted for in the previous year's values.

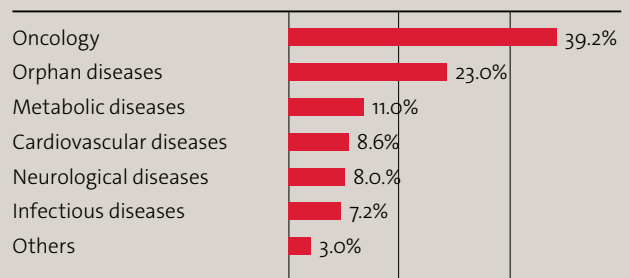
## Share price trend since foundation (in CHF)



## Top 10 positions as of December 31, 2016



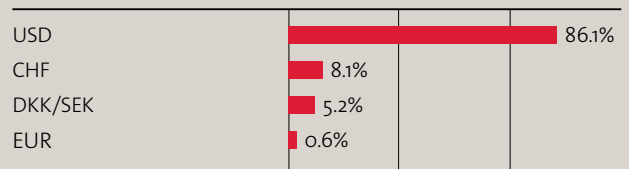
## Breakdown by sector as of December 31, 2016



## Performance (adjusted for dividends, in local currency)

| As of 12/31/2016 | 1 year | 3 years  | 5 years  | 11/15/93 |
|------------------|--------|----------|----------|----------|
| Switzerland      | + 0.3% | + 125.3% | + 433.4% | + 1 700% |
| Germany          | + 1.9% | + 158.2% | + 508.3% | N.A.     |
| Italy            | + 1.3% | + 157.3% | + 507.1% | N.A.     |

## Breakdown by currency as of December 31, 2016



## *Challenging year for biotech stocks*

All-share benchmark indices added to their year-to-date gains during the final quarter of the year, whereas the Nasdaq Biotech Index (NBI) ended the quarter in reverse. Year-to-date, the NBI declined 21.3% (in USD). Heightened volatility before and right after the US presidential elections put financial markets on edge. Large cap biotech stocks were trading near record-low price/earnings multiples as the year came to an end; mid and small caps experienced an even greater valuation contraction. None of these stockmarket developments were attributable to any adverse changes regarding biotechnology itself or to the fundamental news flow from biotech companies.

## *BB Biotech shares outperform*

Despite the considerable volatility witnessed in 2016, BB Biotech AG's shares ended the year with a performance of 0.3% in CHF, 1.9% in EUR and -1.4% in USD. The NBI benchmark index was outperformed by almost 20% (in USD). A combination of a stronger US dollar and the dissolution of the discount between BB Biotech AG's share price and Net Asset Value helped the shares to recover. The Net Asset Value (NAV) of the portfolio ended the year down 19.1% in CHF, 17.6% in EUR and 20.6% in USD.

## *Attractive dividend yield of 5% also in 2017*

Despite the difficult stock-market environment, BB Biotech strengthened its market position and the Board of Directors is proposing a regular dividend of CHF 2.75 per share. This corresponds to a 5% dividend yield based on BB Biotech's average share price in December 2016 and accords with the dividend policy that was introduced in 2013.

## *Positive news flow to continue in 2017*

The pace of major new drug approvals and milestone read-outs is likely to pick up in 2017, both for the industry and BB Biotech's portfolio. In view of the very attractive valuations, more acquisitions of biotechnology firms are likely to be announced by the industry's major-league players, and by the pharmaceutical companies. Action by the incoming administration in Washington could give this anticipated trend an additional boost. However, volatility is expected to remain high and could be fueled by government-imposed controls or other action affecting drug prices in the US.

### OUTPERFORMANCE BB BIOTECH SHARE

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# 19.9%

(in USD vs Nasdaq Biotechnology Index)

### PERFORMANCE BB BIOTECH SINCE INCEPTION (11/15/1993)

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# 1700%

(in CHF)

### NET ASSET VALUE AS OF 12/31/2016

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# CHF 3.0 bn

(2015: CHF 4.0 bn)

### DISTRIBUTION FOR FISCAL YEAR 2016 (PROPOSED)

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# CHF 2.75

(2015: CHF 2.90)

### NUMBER OF PORTFOLIO COMPANIES

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# 33

(as at 12/31/2016)

### NUMBER OF APPROVALS PORTFOLIO BB BIOTECH

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# 10

(2015: 12)

### NUMBER OF TAKEOUTS IN PORTFOLIO 2016

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# 2

(Medivation, Tobira)

## Table of content

|   |    |
|---|----|
| Shareholder letter                              | 2  |
| Outlook   | 6  |
| Team  | 8  |
| Investment process                              | 10 |
| Investment strategy                             | 12 |
| Portfolio                                       | 13 |
| Investment themes                               | 14 |
| Portfolio companies                             | 26 |
| Consolidated financial statements               | 40 |
| Notes to the consolidated financial statements  | 44 |
| Report of the statutory auditors                | 56 |
| Financial statements BB Biotech AG              | 62 |
| Notes to the financial statements BB Biotech AG | 64 |
| Report of the statutory auditors                | 68 |
| Corporate Governance                            | 72 |
| Remuneration Report                             | 78 |
| Report of the statutory auditors                | 81 |
| Shareholder information                         | 82 |



**Dr. Erich Hunziker**  
Chairman of the Board of Directors

*Erich Hunziker has been on the Board of Directors of BB Biotech AG since 2011 and has been elected president in 2013. He previously served as CFO of Roche from 2001 to 2010. From 1983 to 2001 he held various executive positions at Corange, Boehringer Mannheim and, before joining Roche, at Diethelm-Keller-Gruppe, where he ultimately served as CEO. Erich Hunziker earned a Ph.D. in Industrial Engineering from the Swiss Federal Institute of Technology in Zurich. He is also a member of the Boards of Directors of AB2Bio AG and a member of the Supervisory Board of the IMD Management School, Lausanne.*



**Dr. Clive Meanwell**  
Vice-Chairman of the Board of Directors

*Dr. Clive Meanwell is a member of the Board of Directors since 2003 and member of the Board of Directors and CEO of The Medicines Company, which he established in 1996. From 1995 to 1996 he was a founding partner and managing director of MPM Capital L.P. He previously held various positions at Hoffmann-La Roche in Basel and Palo Alto, California. Dr. Meanwell received his M.D. and Ph.D. from the University of Birmingham in the UK where he also trained in medical oncology.*

## Dear shareholders,

With a total return of 0.3% in CHF and 1.9% in EUR, BB Biotech weathered the storm of a challenging 2016 for biotechnology investors. Share price performance was substantially influenced by the discount resolution. The portfolio closed the year at -19.1% in CHF, at -17.6% in EUR and -20.6% in USD – slightly ahead of the Nasdaq Biotech Index. The fourth quarter 2016 was buffeted by initial positive moves following the US presidential election before the focus turned back to the topic of healthcare costs and drug price inflation. Despite all this BB Biotech continued to strengthen its market position and is proposing a regular dividend of CHF 2.75 per share.

### **The US presidential election added to the volatility in the biotech equity markets**

While broad benchmarks extended 2016 gains in the fourth quarter, the Nasdaq Biotech Index (NBI) lost ground in the same period. gyrations before and immediately after the US presidential election led to market volatility and the year closed with large cap biotechnology companies trading close to an all-time price/earnings multiple low, mid caps and small caps suffering even more value depreciation. None of these events bore any relationship to technology or company fundamentals.

The fourth quarter reflected the whole of 2016. Fourth quarter total returns for the NBI was -8.3% vs the S&P 500 at +3.8% and the Dow Jones Index at +8.7%. Full-year 2016 total returns looked similar, with the Nasdaq Biotech Index (NBI) closing at -21.3%, the S&P 500 Index at +11.9% and the Dow Jones Index at +16.5% (in USD).

### **BB Biotech's development in the fourth quarter and 2016**

BB Biotech's share price rebounded in the fourth quarter (+10.4% in CHF, +12.8% in EUR and +5.5% in USD). This was driven by a combination of US dollar appreciation and dis-

count resolution. For the full year 2016, BB Biotech's total return was +0.3% in CHF, +1.9% in EUR and -1.4% in USD.

During the fourth quarter of 2016, the portfolio (-0.8% in CHF, +1.4% in EUR and -5.5% in USD) showed less decline than the NBI. For the full year, the portfolio total return was -19.1% in CHF, -17.6% in EUR and -20.6% in USD. Consolidated and audited fourth-quarter data for BB Biotech record a net loss of CHF 24 mn versus last year's quarter gain of CHF 511 mn. Consolidated and audited full-year 2016 data showed a net loss of CHF 802 mn versus a full-year net profit of CHF 653 mn for 2015.

### **A proposed dividend of CHF 2.75 per share**

The Board of Directors will propose a regular dividend of CHF 2.75 per share at the general assembly on March 16, 2017. This is consistent with a 5% dividend yield applied to the average share price in December 2016, as described in the dividend policy introduced in 2013.

### **Portfolio update in the fourth quarter**

Progress in the portfolio companies continued throughout the last quarter 2016. Post the first positive Nusinersen study to treat infantile-onset spinal muscular atrophy (SMA) in the summer, Ionis and its partner Biogen Idec reported a positive study for Nusinersen in later-onset SMA. With the initial FDA filing closed in late September, the FDA quickly approved Spinraza (Nusinersen) already in late December with a broad label including both pediatric and adult SMA patients. The future outcome of the NURTURE study testing pre-symptomatic SMA infants will be of great interest with the current understanding that an earlier treatment outcome leads to improved efficacy benefits.

**Prof. Dr. Dr. Klaus Strein**  
Member of the Board of Directors

*Prof. Dr. Dr. Klaus Strein has been on the Board of Directors since 2013. He was with Roche from 1998 to 2011, during which time he held various responsibilities, including head of pharma research activities in Germany and of global pharma research. From 1979 to 1998 he served in various positions at Boehringer Mannheim. He holds post-graduate degrees in chemistry and medicine from the University of Heidelberg, where he was also appointed Adjunct Professor. He is also a member of the Board of Directors of NovImmune SA.*



AveXis presented updated data from its Phase I trial with AVXS-101 in Type I SMA, showing continued benefit in the infants, thus strengthening the profile of the gene therapy. Furthermore, the company met with the FDA to discuss the design of the pivotal trial in SMA Type I. Importantly, the FDA agreed on a small study (20 babies) and does not require a placebo or active control arm. This should help make enrollment in the study easier, and potentially allow for a faster data read-out.

Tesaro presented detailed Phase III Niraparib data at the European Society of Medical Oncology (ESMO). All the data were in line with the previously announced strong top line results. The key new piece of information was that the drug achieved a statistically significant strong clinical benefit (hazard ratio of 0.58) for homologous recombination deficiency-(HRD-negative patients, a population that has not been tested positive with competing products. Tesaro has filed for this broad population in the last quarter and has started an early access program for ovarian cancer patients in the US, with Europe to follow. US regulatory approval is expected by summer 2017 followed later in the year with a decision in Europe.

Next to these and other substantial positive outcomes, some pipeline setbacks happened in Juno and Alnylam. Juno's clinical trial for JCAR015 for adult patients with relapsed or refractory B cell acute lymphoblastic leukemia (ALL) was stopped due to severe side effects. Despite this setback for the first generation CAR-T therapy, Juno continues to advance and develop improved next-generation products. We have added to our Juno position upon further due diligence given the rapid progress of the company's next-generation CAR-T product, JCAR-017. JCAR-017 so far has shown very impressive efficacy within lymphoma patients and even more importantly with a much improved tolerability profile. Discontinuation of Alnylam's resusiran tested for treating hereditary ATTR amyloidosis with

cardiomyopathy came as a negative surprise. Given the company's broad pipeline and leading RNAi position, we continue to be optimistic for the company's future.

#### **Portfolio adjustments in the fourth quarter**

Overall, changes to the portfolio in 2016 have been below the activity of 2015 with a similar trend seen for the last quarter. Takeover-related trading activity contributed the most to the cash generation that we continued to deploy in multiple new investments throughout 2016.

Considering the risk-return situation late in 2016 for Actelion, the position was trimmed as the shares showed strong price performance associated with the initial Johnson & Johnson (JNJ) interactions. Subsequent to the initial negotiation, JNJ announced on January 26, 2017 an offer of USD 280 per Actelion share, valuing the company at USD 30 bn. Shareholders of Actelion will receive shares in the newly created R&D company that will continue to develop Actelion's earlier stage pipeline. Actelion has been a long-term holding of BB Biotech exemplifying our unconstrained and longer-term investment approach – resulting in attractive capital returns with an overall total gain of over CHF 750 mn.

Capital freed up by profit-taking in Actelion was allocated mostly to existing portfolio holdings and to a lesser extent into Myovant, a new portfolio holding initiated in the fourth quarter 2016. Driven by short-term challenges and uncertainties and combined with top-level management changes, share prices of both Alexion and Novo Nordisk underperformed throughout 2016 and traded at multi-year lows late in 2016. The continued overall strong businesses, long-term models, and attractive pipeline assets were the basis to re-allocate capital to these two larger-capitalized companies in the fourth quarter 2016. In the smaller-capitalized holdings of BB Biotech's portfolio, additions were made in Intra-Cellular, MacroGenics, Juno and Agios.

Our holding in Cempra was sold following the disappointing FDA advisory panel that discussed Solithromycin's liver toxicity. The company subsequently received a complete response letter. The continued high medical need to develop novel antibiotics that tackle multiresistant bacterial strains will be the guiding principle to continue analyzing investment cases in that space even though recent investments did not succeed.

One new position was initiated in Myovant, a company developing the GnRH receptor antagonist, Relugolix for endometriosis, uterine fibroids and advanced prostate cancer. Backing the IPO and therefore supporting the capital increase allows the company to develop Relugolix and retain US and EU product rights. The company has initiated its first Phase III study for treating uterine fibroids and is expected to report top line data and to file for regulatory approval in 2019 with a potential subsequent product launch in 2020.

**Outlook – exciting 2017 as storms subside**

2017 will bring an acceleration of important product approvals and milestone readouts for the industry and BB Biotech's portfolio. The launch of Spinraza for SMA patients, Niraparib for ovarian cancer patients and targeted cell-based cancer therapies are key examples in BB Biotech's portfolio.

With biotechnology valuations at very attractive levels, more acquisitions by large players, including pharmaceutical firms, are expected. Actions of the incoming presidential administration in the US may accelerate this likely trend – and BB Biotech expects investors to follow suit. Repeal and replacement of the Affordable Care Act (ACA) will be front and center throughout the year, and there may be choppy reactions to possible drug price controls or moderation in the US.

Despite these transitional events that may cause near-term volatility, BB Biotech remains strongly convinced that the future of the biotechnology industry is bright. The sector will further demonstrate its strength as a source of innovation – and notwithstanding short-term uncertainties from political changes, the Investment Team believes these sources will be converted into substantial value for patients, care providers, the healthcare system as a whole, and, of course, investors which includes BB Biotech shareholders. BB Biotech looks forward to an exciting 2017 and remains dedicated to finding, analyzing and investing in leading-edge biotechnology firms with exciting news flow and robust growth prospects.

We thank you for the trust you have placed in the Company.

The Board of Directors of BB Biotech AG



Dr. Erich Hunziker, Chairman



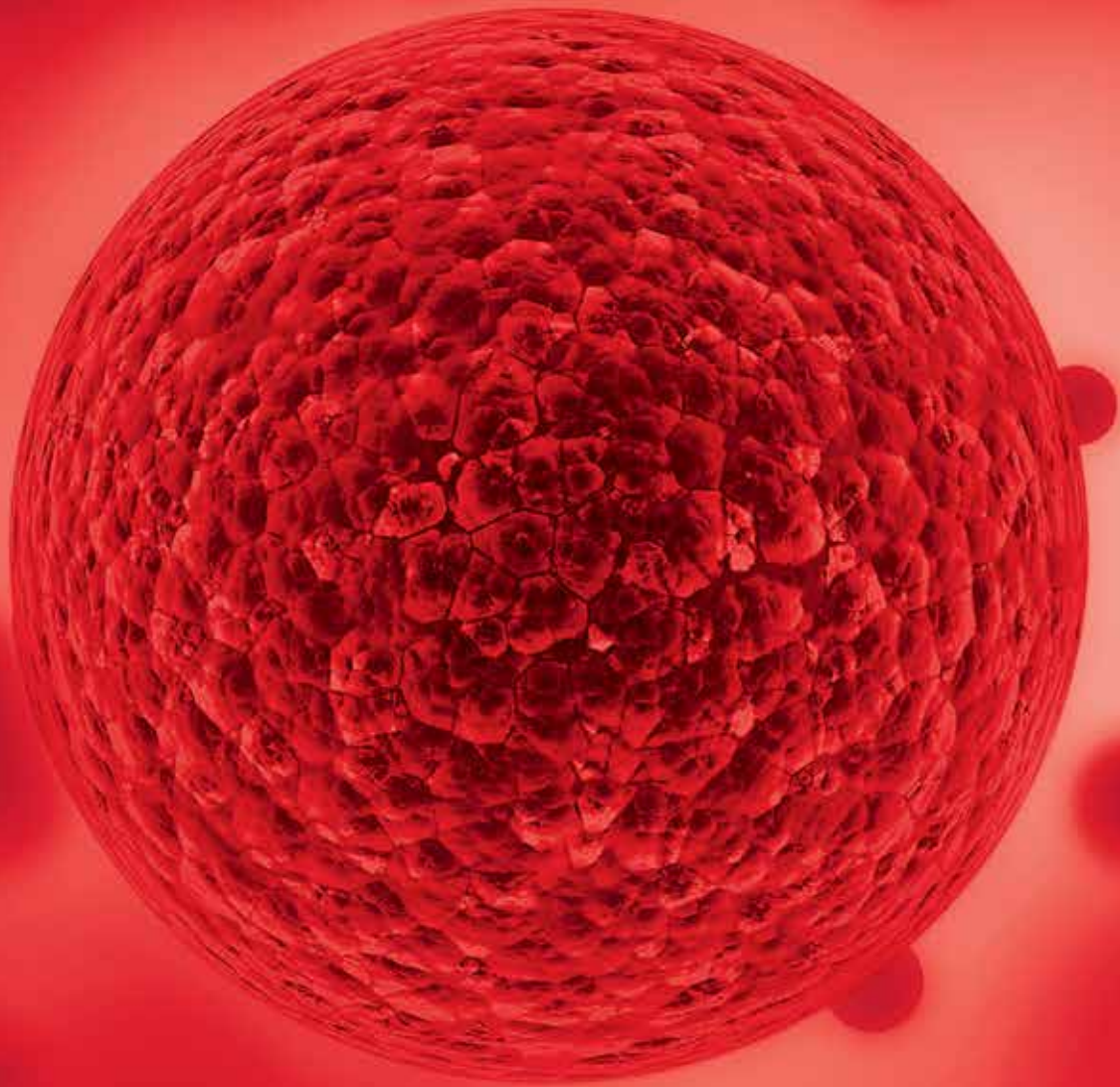
Dr. Clive Meanwell



Prof. Dr. Dr. Klaus Strein



*«BB Biotech is a strong growth  
play and it offers a high income stream  
on top of that.»*



## *Eventful year for BB Biotech ahead*

**In 2017 virtually every holding in the portfolio is expected to report important clinical data, receive regulatory approvals, or both. Moreover, the market uptake of product launches has had a growing impact on biotech companies' operating results in recent years and we expect these growth trends to continue into 2017. The continuously growing cash flows of the biotech industry allow companies to allocate even more resources to their research pipelines and make the move from one-product companies to diversified, profitable high-growth stocks.**

With equity market volatility returning to normal, we expect more companies to position themselves strategically through expansion of their pipelines and seek to strengthen their positions through targeted acquisitions and alliances. Potential changes to the US tax system – both the lowering of the overall tax rate and the possibility for repatriation of off-shore funds – could accelerate these activities even further. Drug pricing is likely to continue to be a much debated topic with the proposed repeal and replacement of the Affordable Care Act (ACA) to add uncertainty over insurance pools and the overall number of US citizens enjoying health insurance coverage. We continue to be-

*«Biotech industry continued to generate large numbers of approved products and highly successful product launches.»*

lieve that true innovation will be rewarded with strong pricing power and that increased transparency within a highly complex US reimbursement system could sway the negative view of the drug industry.

### **Important product launches to drive double-digit industry revenue growth**

Investor focus is finally returning to the new cycles of products and product classes introduced over the past several quarters. With the dynamics of the global hepatitis C virus (HCV) market changing from steep adoption and increasing peak sales reached to a plateau at high levels and current slowing of overall prescription numbers. Gilead has achieved double-digit billions in yearly sales from its HCV franchise comprised of Sovaldi, Harvoni and the newly launched Epclusa, but these sales are on the decline.

Other new drugs and drug classes in investors' focus are the PCSK9 products Praluent (Regeneron/Sanofi) and Repatha (Amgen) as well as the global launch of Orkambi (Vertex) treating a much broader part of the cystic fibrosis patient population than previously addressable with Kalydeco. Of considerable interest for our portfolio is the launch of Spinraza,

approved in late December 2016 in the US for treating pediatric as well as adult patients with spinal muscular atrophy (SMA). Additionally, both the sector and our portfolio should benefit as more companies achieve their first product approval. Examples in the near term include KTE-C19 (Kite Pharma) for the treatment of lymphomas and Abaloparatide-SC (Radius Health) for the treatment of osteoporosis.

### **Greater visibility in research pipelines**

The biotech industry continued to generate large numbers of approved products and highly successful product launches during the last few years. In 2016, 22 new products reached marketing approval in the US, with 11 stemming from biotech companies. The EU recommendations totaled 27 new substances for 2016, with 8 stemming from biotech companies. Continued sales growth allows biotech companies to remain independent and further invest in broader and more diversified pipelines. Development stage companies investing in new technology platforms such as Ionis Pharmaceuticals, Alnylam Pharmaceuticals and MacroGenix are front-runners. Updates on pipeline products are also expected from our oncology-focused companies such as the small molecule players Incyte, Tesaro and Agios, and the T-cell-based therapy companies such as Juno and Kite.

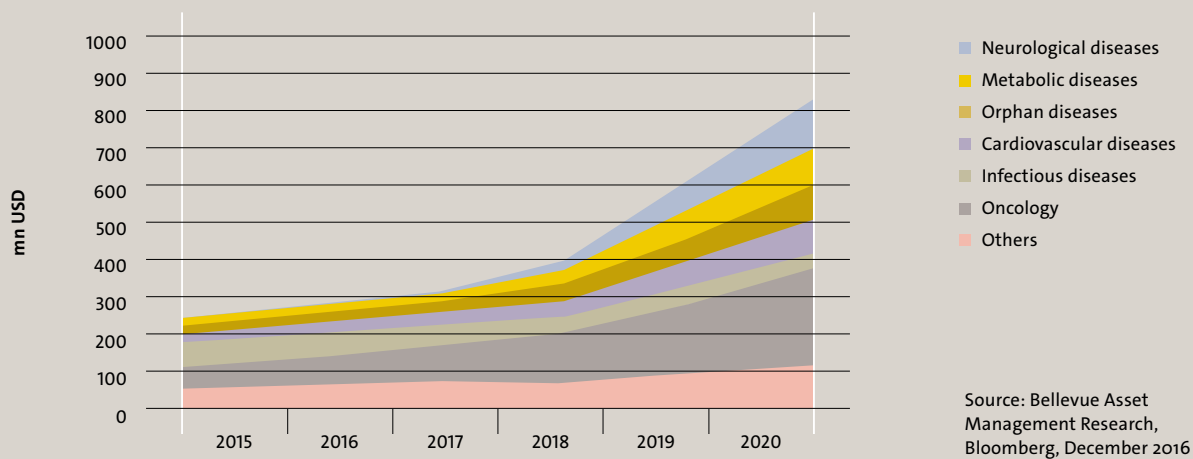
### **Strategic positioning and consolidation**

Throughout 2016, Celgene continued to invest heavily in its pipeline diversification with important joint ventures such as their recent collaboration with Agios in metabolic immuno-oncology. The company is confident it will have built a pipeline that will compensate for the Revlimid patent cliff in 2025 and allow it to achieve attractive top-line growth for the next decade. Current investor focus regarding Gilead is on the company's capital allocation, given the double-digit billion cash flows achieved over the last three years. Expectations are that Gilead will strengthen its pipeline with further acquisitions in the antiviral space, such as for new treatments for hepatitis B virus (HBV), in oncology, or the orphan drug space. With recent activity of the large pharmaceutical companies skewed to either go for megamerger or private equity transactions, we expect renewed activity in listed biotech companies as soon as markets become less volatile and there is increased visibility regarding the announced US healthcare reform. With demand for innovative products not abating and every larger company considering acquisitions, we expect the small- and mid-cap companies that are innovation leaders and asset owners to be attractive targets. BB Biotech is well-positioned to capture the upside in such events.

### **Continued focus on drug prices and regulatory environment**

With the election of the new US president, the public debate around the US healthcare system, healthcare access, and

## EXPECTED REVENUE GROWTH FROM BB BIOTECH'S PORTFOLIO COMPANIES



affordability is expected to continue. Drug pricing will be debated due to the highest co-pay percentage in the health-care system as well as ever-increasing list prices for medications, with new innovations priced at a premium over an already high cost base.

Although being well-understood and accepted that investing in innovation does require attractive capital returns, several examples within the specialty pharmaceutical industry have reinforced public pressure on drug prices. In these cases, companies have acquired older, marketed products and implemented substantial price increases for these drugs, thus turning the classical «investment and return cycle» upside down. Of even bigger importance than the pricing power is a predictive and well-functioning regulatory environment. The US FDA is currently interacting with the industry to improve the review process. The new guidelines, the PDUFA VI, are expected to be approved by Congress and implemented in 2017. We are actively monitoring the progress and potential implications of the new guidelines, with expectations that they will either maintain or improve on the PDUFA V. Given that the US biotechnology industry is an important contributor to the US high-tech industry, we expect that innovation will continue to be attractively priced and reimbursed in the US.

### Abundant study results and product approvals are acting as catalysts

The ample newsflow witnessed in 2016 promises to continue and we are expecting plenty of key data points and approvals again in 2017. Some of the highlights will be the approval and launch of Niraparib (Tesaro) for the treatment of platinum treated and recurrent ovarian cancer, Valbenazine (Neurocrine) for tardive dyskinesia, Abaloparatide-SC (Radius Health) for osteoporosis and KTE-C19 (Kite) for the treatment of lymphoma. Ionis' partner Biogen recently launched Spinraza for treating pediatric and adult SMA patients. Agios' partner Celgene is ex-

pecting the approval and launch of Enasidenib for the treatment of relapsed or refractory AML patients carrying an IDH2 mutation. Finally, Regeneron and Sanofi's Dupixent is expected to be approved for the treatment of atopic dermatitis.

We expect key clinical data readouts to continue impacting the valuations of our holdings. Key readouts include the Phase III studies for Ozanimod (Celgene) for relapsing-remitting multiple sclerosis. Two studies for Revlimid are ongoing testing Celgene's blockbuster drug in both first line and in relapsed or refractory follicular lymphoma. Both Alnylam (ALN-TTRO2) and Ionis (IONIS-TTR) will present data from their pivotal TTR programs and Ionis will report an additional pivotal program for Volanesorsen for the treatment of patients with severe triglyceride elevation such as familial chylomicronemia syndrome (FCS). Alder will present data for Eptinezumab, a novel CGRP antibody, for the treatment of patients with frequent episodic migraine. Finally, Sage will present topline Phase III data for SAGE-547 in super-refractory status epilepticus in the first half of 2017. Regeneron and its partner Sanofi are expected to announce CV outcomes data for Praluent late in 2017 and, if positive, it should additionally drive increased product adoption of the PCSK9 class drugs.

In the earlier lines of clinical testing, many more impactful milestones are due in 2017. Vertex is planning to report on the four different triple combinations tested in cystic fibrosis patients carrying a F508 deletion and Agios is expected to report further clinical data for AG-120 for AML patients carrying an IDH1 mutation. The company plans to file for accelerated approval by year-end 2017.

### NUMBER OF BIOTECH DRUG APPROVALS

# 19

(in 2016, US and EU)

**BB Biotech Team, New York**



**Felicia Flanigan**

*Since 2004 with the BB Biotech Investment Management Team  
MBA Suffolk University, Boston  
BA Communications, Boston College*

**Dr. Stephen Taubenfeld**

*Since 2013 with the BB Biotech Investment Management Team  
M.D. and Ph.D. in Neuroscience, Brown University School of Medicine*

**Dallas Webb**

*Since 2006 with the BB Biotech Investment Management Team  
MBA Texas Christian University of Fort Worth  
BS in microbiology and zoology, Louisiana State University*

**New York**

**BB Biotech Team, Curaçao**



**Rudy LeBlanc**

*Since 2013 Board member and managing director of the BB Biotech branch office in Curaçao.  
Degree in medical science from the Emory University in Atlanta, USA*

**Hugo Van Neutegem**

*Since 2001 chairman of the BB Biotech branch office in Curaçao  
Tax law, University of Leiden, the Netherlands*

**Jan Bootsma**

*Since 1995 with BB Biotech AG, Curaçao  
Higher economic education HEAO, Zwolle, Netherlands*

**Nathalie Isidora-Kwidama**

*Since 2007 with BB Biotech AG, Curaçao  
Modern Business Administration*

**Curaçao**



**BB Biotech Team, London**



**Claude Mikkelsen**

*Since 2012 Director Investor Relations BB Biotech  
Master's degree in Economy and Law, Aalborg University, Denmark  
INSEAD, France*

**BB Biotech Team, Zurich**



**Dr. Daniel Koller**

*Since 2004 with the BB Biotech Investment Management Team and its head since 2010  
Master's degree in biochemistry of the Swiss Federal Institute of Technology (ETH) Zurich  
PhD in Biotechnology of the Swiss Federal Institute of Technology (ETH) Zurich and Cytos Biotechnology Ltd, Zurich*

**Dr. Christian Koch**

*Since 2014 with the BB Biotech Investment Management Team  
PhD in Chemoinformatics & Computational Drug Design, ETH Zurich  
Master in Bioinformatics, Goethe University Frankfurt*

**Dr. Silvia Schanz**

*Since 2012 Director Investor Relations BB Biotech  
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Master in Biochemistry, minor in Business Administration of the University Freiburg*

**Maria-Grazia Iten-Alderuccio**

*Since 2007 Director Investor Relations BB Biotech  
Master's degree in Linguistics from the University of Lausanne and Università degli Studi di Firenze, Italy*

**Michael Hutter**

*Since 2008 responsible for Finance & Compliance  
Swiss Chartered Accountant Degree in Business Economics, Zurich  
University of Applied Sciences in Business Administration*

**Tanja Chicherio**

*Since 2013 responsible for Marketing & Communication  
Degree in media and communication sciences with a minor in business administration from the University of Zurich*



## I Idea generation and pre-screening

The investment universe for BB Biotech comprises about 800 companies in the biotech industry worldwide. It includes large caps to microcaps and even later-stage private companies. The Portfolio Management Team monitors this industry actively. In an initial phase the team identifies disease areas where major progress is being made, technological advances are promising, new mechanisms of action are being discovered or technology platforms that could be leveraged for multiple therapies are being developed. To stay highly informed, the team talks to analysts, conducts interviews with doctors and specialists, attends medical conferences, reviews scientific literature, and visits companies on site. The team also regularly evaluates the geographical allocation of its investments by visiting countries or areas that show interesting developments. Once promising investment themes (disease area, technology, etc.) are identified, the universe is reduced from 800 companies to about 300.

### INVESTMENT UNIVERSE

# 800

(number of companies)



## II

### Due diligence

With the due diligence process the focus switches from «themes» to individual companies and products. Qualitative as well as quantitative screening criteria are applied. Again, doctors and specialists are consulted to learn more about different drug candidates. The objective is to understand the innovation behind a product, to see what benefit the product could provide for the patient, but also if the product makes sense from a health economic standpoint. BB Biotech tries to focus on products that are novel and essentially reduce healthcare costs because of their higher efficiency or better safety. The time horizon for these investments is mid- to long-term. Another important point is the quality of the management, which is assessed in discussions during company meetings. For about 100 companies the team has created and maintains financial models that help to assess the financial position of the company and get a sense of market opportunities or to review the clinical data companies have produced and presented. At the end of this phase the team discusses the investment cases and selects the most promising ideas.

### FINANCIAL MODELS BB BIOTECH

# 100

(number of companies)



### III

#### Investment decision and portfolio construction

If the team feels comfortable with an investment idea, the analyst that covers the company prepares a detailed investment proposal. This includes a financial model, a summary of the clinical data the company has presented, the investment rationale with potential upside and downside as well as the proposal of the size of the investment and at what price range the investment should be built up. This proposal is then presented to the Board during the monthly calls, where the Board of Directors and the team engage in an active discussion about the potential investment. BB Biotech also holds a biannual strategy meeting, where the Board and the Investment Management Team review strategic developments in the biotech industry and meet with the management of the portfolio holdings or of potential investments. Once the Board has approved a proposal, the portfolio managers build the position in a relatively short time, provided that the price levels are within the approved range for investment. This results in a biotech portfolio of around 20 to 35 companies.

##### POSITIONS IN THE PORTFOLIO

---

# 20 – 35

(number of companies)



### IV

#### Monitoring and risk management

Once the portfolio is established, the monitoring and risk management processes begin. The development of the drug candidates is monitored closely with new clinical data becoming available at medical conferences. The validity of the investment case is continuously assessed as the team regularly meets with management and keeps the financial model updated. If there is a substantial change in the underlying value of a company that requires action, the team will present a proposal to the Board to increase the position, or to exit it, depending on what the reasons for the change are. Additionally, the portfolio managers may adjust the positions in the portfolio by buying when prices are lower than the Net Asset Value estimated with the help of financial modeling or by selling a part of the position on strength, if a stock looks relatively overvalued. However, the Board is always involved in major changes. The portfolio is also monitored with the help of risk management software.

##### NUMBER OF COMPANY MEETINGS

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# > 100

(2016)



## Investment strategy

**BB Biotech invests in fast-growing biotechnology companies that are developing and marketing innovative drugs. It focuses on biotech companies whose products address areas of significant unmet medical needs and that are generating above-average sales and profit growth. The focus is primarily on profitable mid- and large-cap companies as well as smaller biotech companies with attractive R&D pipelines, preferably with products already in the final stages of clinical development. A total return of 15% p.a. over a medium- to longer-term investment horizon is targeted.**

### Focus on equity investments

The asset classes available to BB Biotech are direct investments in the shares of listed companies, equity interests in unlisted companies, corporate bonds, and options on a range of underlying assets. BB Biotech invests almost exclusively in stocks for liquidity and risk/return reasons. Investments in private companies can account for no more than 10% of the portfolio. These investments will generally be increased if stock markets advance over a longer period of time. Corporate bonds are an alternative primarily when stock market trends are negative. Options on the stocks of portfolio companies will be bought and sold at opportune times and as a means of hedging currency exposure.

### Fundamental, bottom-up investment process

Exhaustive, multi-stage due diligence precedes the selection of individual investments. We must have a thorough understanding of every company we invest in. Before an investment is made, the team analyzes a company's financial statements in detail and assesses its competitive environment, R&D pipeline, and patent portfolio as well as its customers' perceptions of its products and services. Close contact with company ex-

ecutives is of high importance to us in this due diligence process, but also afterwards, as we believe that it takes strong leaders to achieve strong results. Having such a profound understanding of the companies in its portfolio improves BB Biotech's investment tactics, allowing it, for example, to exit a position in a timely fashion if there are signs of a significant deterioration in a company's fundamentals.

### Portfolio with clear areas of focus

BB Biotech's investment portfolio will usually consist of 20 to 35 biotechnology companies. This will include five to eight large core positions, which together will account for up to two-thirds of the portfolio. Due to their substantial portfolio weighting, the core portfolio companies must have sound business models and be generating both revenues and profits. No single core position will have a weighting of more than 25%. Smaller positions will be taken in innovative biotech companies with promising R&D pipelines. Europe's biotech sector has produced few truly attractive investment opportunities in recent years, but there has been a wide variety of fast-growing companies to choose from in the USA. This situation is also reflected in BB Biotech's portfolio. As a result of our fundamental stock-picking approach, more than four-fifths of the current portfolio companies are based in the USA.

### S-curve concept

New investments in mid-cap companies will have a weighting of between 0.5% and a maximum of 4% to ensure that both upside potential and R&D risks are adequately addressed. Technically, BB Biotech has the flexibility to increase portfolio weightings considerably. Smaller positions may become a top holding as their business develops and milestones such as positive Phase III outcomes, drug approvals, the successful marketing of products, and a sustainable flow of profits are achieved. The top holdings are continually monitored, taking into account their valuations, growth potential and other aspects, and will be reduced if and when appropriate.

*«BB Biotech's investment portfolio will usually consist of 20 to 35 biotechnology companies, including 5 to 8 core positions.»*

BB Biotech relies on the long-standing experience of its distinguished Board of Directors and on the fundamental analysis of the experienced Investment Management Team of Bellevue Asset Management Group when making its investment decisions. It can also turn to an extensive interna-

**Participations as at December 31, 2016**

| Company  | Number of securities | Change since 12/31/2015 | Local currency | Share price | Market value in CHF mn | In % of securities | In % of shareholders' equity | In % of company |
|--|----------------------|-------------------------|----------------|-------------|------------------------|--------------------|------------------------------|-----------------|
| Celgene  | 3 459 298            | (150 000)               | USD            | 115.75      | 408.4                  | 12.7%              | 13.6%                        | 0.4%            |
| Incyte   | 3 879 822            | 129 416                 | USD            | 100.27      | 396.8                  | 12.4%              | 13.2%                        | 2.1%            |
| Ionis Pharmaceuticals                                    | 6 913 172            | 383 334                 | USD            | 47.83       | 337.3                  | 10.5%              | 11.2%                        | 5.7%            |
| Actelion   | 1 181 436            | (1 019 237)             | CHF            | 220.50      | 260.5                  | 8.1%               | 8.7%                         | 1.1%            |
| Gilead   | 2 774 596            | –                       | USD            | 71.61       | 202.7                  | 6.3%               | 6.7%                         | 0.2%            |
| Radius Health  | 4 360 399            | 88 259                  | USD            | 38.03       | 169.1                  | 5.3%               | 5.6%                         | 10.5%           |
| Alexion Pharmaceuticals                                  | 1 229 428            | 195 000                 | USD            | 122.35      | 153.4                  | 4.8%               | 5.1%                         | 0.5%            |
| Tesaro   | 974 582              | (255 000)               | USD            | 134.48      | 133.7                  | 4.2%               | 4.5%                         | 1.8%            |
| Neurocrine Biosciences                                   | 3 151 552            | 30 000                  | USD            | 38.70       | 124.4                  | 3.9%               | 4.1%                         | 3.6%            |
| Agios Pharmaceuticals                                    | 2 809 528            | 649 607                 | USD            | 41.73       | 119.6                  | 3.7%               | 4.0%                         | 6.7%            |
| Novo Nordisk   | 3 085 852            | 842 082                 | DKK            | 254.70      | 113.2                  | 3.5%               | 3.8%                         | 0.2%            |
| Vertex Pharmaceuticals                                   | 1 415 445            | 50 000                  | USD            | 73.67       | 106.4                  | 3.3%               | 3.5%                         | 0.6%            |
| Regeneron Pharmaceuticals                                | 245 000              | 40 000                  | USD            | 367.09      | 91.7                   | 2.9%               | 3.1%                         | 0.2%            |
| Halozyme Therapeutics                                    | 7 599 832            | 570 000                 | USD            | 9.88        | 76.6                   | 2.4%               | 2.6%                         | 5.9%            |
| Swedish Orphan Biovitrum                                 | 4 449 334            | (960 000)               | SEK            | 106.70      | 53.2                   | 1.7%               | 1.8%                         | 1.6%            |
| Sage Therapeutics  | 1 022 439            | 313 776                 | USD            | 51.06       | 53.2                   | 1.7%               | 1.8%                         | 2.8%            |
| Alnylam Pharmaceuticals                                  | 1 191 338            | 58 839                  | USD            | 37.44       | 45.5                   | 1.4%               | 1.5%                         | 1.4%            |
| Myovant Sciences   | 3 192 835            | 3 192 835               | USD            | 12.44       | 40.5                   | 1.3%               | 1.3%                         | 5.3%            |
| Macrogenics  | 1 920 000            | 1 920 000               | USD            | 20.44       | 40.0                   | 1.2%               | 1.3%                         | 5.5%            |
| Kite Pharma  | 800 000              | 50 000                  | USD            | 44.84       | 36.6                   | 1.1%               | 1.2%                         | 1.6%            |
| Juno Therapeutics  | 1 870 000            | 565 000                 | USD            | 18.85       | 36.0                   | 1.1%               | 1.2%                         | 1.8%            |
| Alder Biopharmaceuticals                                 | 1 685 150            | 175 000                 | USD            | 20.80       | 35.8                   | 1.1%               | 1.2%                         | 3.4%            |
| Intercept Pharmaceuticals                                | 255 719              | –                       | USD            | 108.65      | 28.3                   | 0.9%               | 0.9%                         | 1.0%            |
| Intra-Cellular Therapies                                 | 1 575 000            | 1 575 000               | USD            | 15.09       | 24.2                   | 0.8%               | 0.8%                         | 3.6%            |
| Probiodrug   | 1 050 784            | –                       | EUR            | 18.03       | 20.2                   | 0.6%               | 0.7%                         | 12.8%           |
| Prothena Corp.   | 350 000              | 30 000                  | USD            | 49.19       | 17.6                   | 0.5%               | 0.6%                         | 1.0%            |
| AveXis   | 352 800              | 352 800                 | USD            | 47.73       | 17.2                   | 0.5%               | 0.6%                         | 1.3%            |
| Esperion Therapeutics                                    | 1 308 542            | 400 000                 | USD            | 12.52       | 16.7                   | 0.5%               | 0.6%                         | 5.8%            |
| Cidara Therapeutics                                      | 1 043 824            | 577 145                 | USD            | 10.40       | 11.1                   | 0.3%               | 0.4%                         | 6.3%            |
| Novavax  | 8 330 000            | –                       | USD            | 1.26        | 10.7                   | 0.3%               | 0.4%                         | 3.1%            |
| PTC Therapeutics   | 682 912              | (620 000)               | USD            | 10.91       | 7.6                    | 0.2%               | 0.3%                         | 2.0%            |
| Puma Biotechnology                                       | 241 991              | (190 000)               | USD            | 30.70       | 7.6                    | 0.2%               | 0.3%                         | 0.7%            |
| Achillion Pharmaceuticals                                | 1 279 340            | –                       | USD            | 4.13        | 5.4                    | 0.2%               | 0.2%                         | 0.9%            |
| Radius Health warrants, 04/23/2018                       | 107 114              | –                       | USD            | 25.41       | 2.8                    | 0.1%               | 0.1%                         |                 |
| Radius Health warrants, 02/19/2019                       | 71 409               | –                       | USD            | 26.70       | 1.9                    | 0.1%               | 0.1%                         |                 |
| Merck & Co Inc contingent value rights – ex Trius/Cubist | 545 927              | –                       | USD            | 0.00        | –                      | 0.0%               | 0.0%                         |                 |
| <b>Total securities</b>                                  |                      |                         |                |             | <b>3 205.9</b>         | <b>100.0%</b>      | <b>106.8%</b>                |                 |
| Other assets   |                      |                         |                |             | 20.4                   |                    | 0.7%                         |                 |
| Other payables   |                      |                         |                |             | (223.2)                |                    | (7.4%)                       |                 |
| <b>Net asset value</b>                                   |                      |                         |                |             | <b>3 003.0</b>         |                    | <b>100.0%</b>                |                 |
| BB Biotech registered shares <sup>1) 2)</sup>            | 15 715               | (3 539 850)             |                |             | 0.9                    |                    |                              | 0.0%            |

<sup>1)</sup> The five-for-one share split as at March 29, 2016, is accounted for in the value.

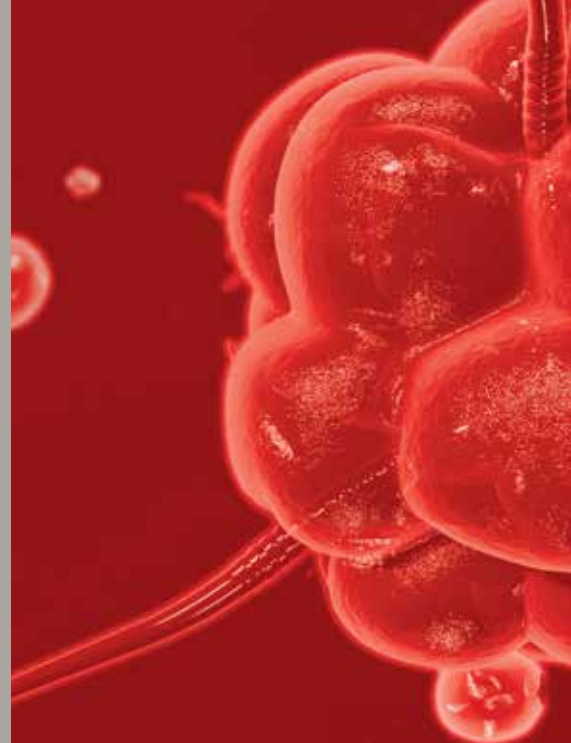
<sup>2)</sup> Correspond to the total of all own shares held including the second trading line

Exchange rates as at 12/31/2016: USD/CHF: 1.02000; DKK/CHF: 14.40350; EUR/CHF: 1.06725; SEK/CHF: 11.19630



39.2%

*Oncology* is a branch of medicine dealing with cancers, of which there are more than 150 different kinds. Novel targeted therapy and immunotherapy approaches developed in biotech labs are taking their place alongside conventional treatment and have massively improved patient survival rates in some cases.



Picture: T cells attack tumor cells.

### BB Biotech's positions

|                       |       |
|-----------------------|-------|
| Celgene               | 12.7% |
| Incyte                | 12.4% |
| Tesaro                | 4.2%  |
| Agios Pharmaceuticals | 3.7%  |
| Halozyne Therapeutics | 2.4%  |
| Macrogenics           | 1.2%  |
| Kite Pharma           | 1.1%  |
| Juno Therapeutics     | 1.1%  |
| Puma Biotechnology    | 0.2%  |

### COMPANIES IN CANCER RESEARCH

>500

(worldwide)

### Sector overview

Nowhere is the medical need for new, more effective therapies greater than in oncology. The pricing latitude for new drugs is correspondingly large in this area. The biggest impact in the coming years is expected from a variety of immunotherapy treatments. Immunotherapy works by activating parts of the human immune system, i.e., T cells that kill cancer cells by targeting them directly. Checkpoint inhibitors block the signal pathways cancer cells can use to stop the immune system from targeting them. Because the approved checkpoint inhibitors attach to different proteins and have different mechanisms of action, they can be administered individually or in combination.

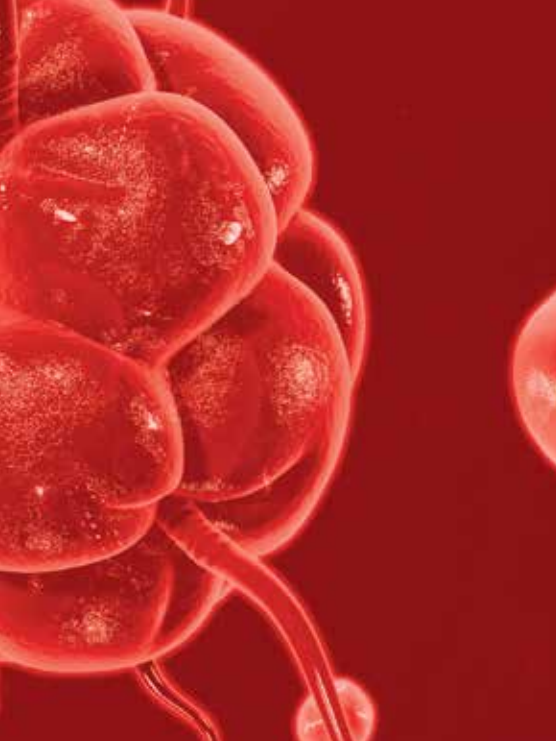
While pharmaceutical companies were the dominant force behind the first checkpoint inhibitors, development of the second generation of checkpoint inhibitors has mainly been led by biotech firms (Incyte, Macrogenics, Tesaro and Celgene). The latest trend is to use conventional therapies in combination with new approaches as second- and third-line treatments. One of the most promising candidates is the IDO1 inhibitor developed by Incyte.

In contrast, CAR-T therapies have mainly been pioneered by biotech companies like Juno Therapeutics and Kite Pharma. This type of cell therapy allows genetically engineered immune cells to recognize and attack cancer cells. These modified T cells are obtained from blood samples, reprogrammed in a lab and re-infused to the patient. Most of the clinical trials launched so far are investigating types of blood cancer. However, CAR-T cells have the theoretical capacity to fight any kind of cancer, always provided that the cancer cells have a suitable target structure.

PARP inhibitors prevent cancer cell growth by blocking the PARP enzymes involved in cancer cell DNA repair. Leading developers include our portfolio company Tesaro. Tesaro's share price quadrupled in 2016 following the release of very good efficacy data for Niraparib in breast and ovarian cancer.







**Felicia Flanigan**  
Investment Management Team

«Harnessing the immune system to battle cancer is expected to be the next major breakthrough to fight this devastating disease. While several agents targeting CTLA4 and PD1/PDL1 are already on the market, efficacy improvements with novel combinations represent the next wave of success.»



## Highlights research & development

| Company                      | Indication   | Clinical Phase |           | Regulatory Phase |                   |
|------------------------------|--|----------------|-----------|------------------|-------------------|
|                              |  | Phase II       | Phase III | Filing           | Expected approval |
| <b>Celgene</b>               |  |                |           |                  |                   |
| Revlimid                     | Newly diagnosed follicular lymphoma <sup>1)</sup>          |                | 2017 H1*  |                  | 2018 H1           |
| Abraxane                     | Adjuvant in post-resection pancreatic cancer <sup>1)</sup> |                | 2017 FY*  |                  | 2018              |
| <b>Tesaro</b>                |  |                |           |                  |                   |
| Niraparib                    | Ovarian Cancer   |                |           |                  | 2017 H1           |
| Niraparib                    | Breast Cancer (BRCA+) <sup>1)</sup>                        |                | 2017 H2   |                  | 2018 H2           |
| <b>Agios Pharmaceuticals</b> |  |                |           |                  |                   |
| AG-120 (IDH1 inhibitor)      | Acute Myeloid Leukemia <sup>2)</sup>                       |                | 2017 Q3   |                  | 2018 H2           |
| AG-221 (IDH2 inhibitor)      | Acute Myeloid Leukemia <sup>1)</sup>                       |                | 2017 Q3   |                  | 2017 Q4           |
| <b>Puma Biotechnology</b>    |  |                |           |                  |                   |
| Neratinib                    | Breast cancer  |                |           |                  | 2017 Q2           |
| Neratinib                    | Metastatic breast cancer <sup>1)</sup>                     |                | 2017 H1   |                  | 2017 Q4           |

\* Pivotal study

<sup>1)</sup> Top-line results

<sup>2)</sup> New drug application

## Oncology in numbers

The World Health Organization (WHO) estimates suggest that the number of new cases of breast cancer diagnosed annually is set to rise from 14 to 17 million in the period from 2012 to 2020 alone. The most common cancers are breast, prostate and lung cancer. An IMS Health study puts the market for cancer drugs at USD 107 billion in 2015. Over 70 new therapies approved in the last five years are used to treat more than 20 different cancers. IMS Health expects average annual sales growth of 7.5% to 10.5% up to 2020. The information service predicts that immunotherapy drugs might earn as much as USD 35 billion over the next ten years. One major obstacle is that these drugs are not available yet in most countries outside the United States and are not covered in government-run health insurance programs.

MARKET POTENTIAL OF CANCER SUBSTANCES

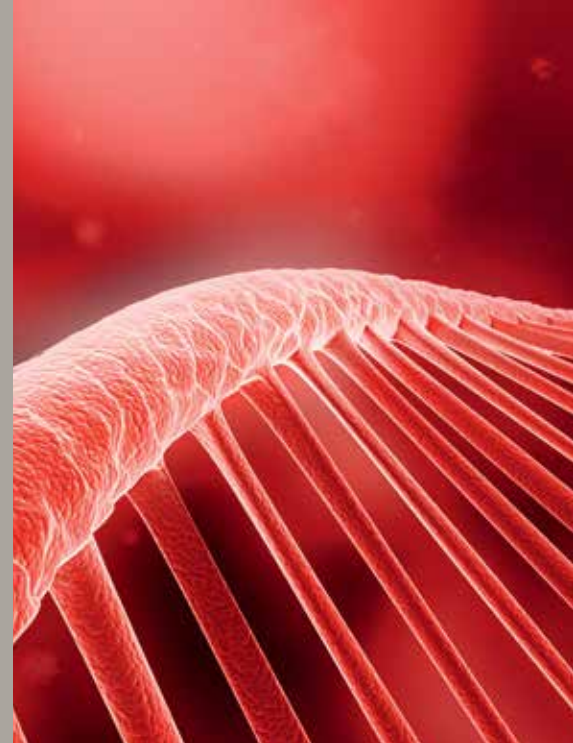
**107 bn**

(USD, IMS Health 2015)



23.0%

*Orphan diseases* are rare conditions that affect no more than 5 out of 10,000 people. More and more biotech companies are engaging in research & development in orphan diseases. Half of the drugs approved last year were developed for orphan diseases.



Picture: DNA molecule

### BB Biotech's positions

|                          |       |
|--------------------------|-------|
| Ionis Pharmaceuticals    | 10.5% |
| Alexion Pharmaceuticals  | 4.8%  |
| Vertex Pharmaceuticals   | 3.3%  |
| Swedish Orphan Biovitrum | 1.7%  |
| Alnylam Pharmaceuticals  | 1.4%  |
| Prothena Corp.           | 0.5%  |
| AveXis                   | 0.5%  |
| PTC Therapeutics         | 0.2%  |

### CHILDREN AFFECTED

**50%**

(of patients with orphan diseases)

### Sector overview

Many of the inherited rare diseases known as orphan diseases are metabolic conditions that may be life-threatening or shorten the life expectancy of those affected. RNA-based technologies have been chalking up major clinical advances in this area.

While conventional therapies available so far have only been able to modify proteins that already exist, antisense RNA technology makes it possible to control the production of a protein through its genetic code. This significantly reduces the generation of harmful proteins that have been identified as the causes of disease. Antisense technology has been advancing and progressing for more than a decade and demonstrating its usefulness in tackling previously untreatable serious orphan diseases. Ionis, a core position in our portfolio, achieved another milestone for its antisense platform late last year when the FDA approved Spinraza, a drug developed in collaboration with Biogen. Spinraza, which is administered by injection, is the first available therapy for spinal muscle atrophy, a disease caused by a rare genetic mutation that affects about 10,000 to 25,000 people worldwide. The wasting of muscle tissue (including the muscles used for breathing) due to loss of motor neurons is associated with greatly reduced life expectancy. Unlike antisense technology, the RNAi approach works by switching off certain genes in the human genome that are believed to trigger the condition. The players here include Alnylam, a company in BB Biotech's portfolio. If the results of pivotal clinical trials scheduled for announcement this year are positive, the company plans to file for approval for patisiran to treat TTR amyloidosis (a peripheral nervous condition) before the end of 2017.

Alexion established its pioneering status in orphan diseases with the approval of Soliris in 2007. 2016 saw the launch of another two products, Strensiq and Kanuma, for the treatment of two ultra-rare diseases (HPP and LAL-D).





**Dallas Webb**  
Investment Management Team

«Over the past several years, treatments for orphan diseases have been making a tremendous impact on the lives of patients. Due to innovative breakthroughs, drugs are being developed to address molecular and genetic targets that were previously 'undruggable'. One of the most high profile drug launches in 2017 will be Ionis' Spinraza for the treatment of Spinal Muscular Atrophy, a very rare but devastating disease with no treatments ever approved until now.»



## Highlights research & development

| Company                        | Indication   | Clinical Phase |           | Regulatory Phase |                   |
|--------------------------------|--|----------------|-----------|------------------|-------------------|
|                                |  | Phase II       | Phase III | Filing           | Expected approval |
| <b>Ionis Pharmaceuticals</b>   |  |                |           |                  |                   |
| Spinraza                       | Spinal Muscular Atrophy                                      |                |           |                  |                   |
| Volanesorsen                   | Familial Chylomicronemia Syndrome <sup>1)</sup>              |                | 2017 H1*  |                  | 2018              |
| <b>Alexion Pharmaceuticals</b> |  |                |           |                  |                   |
| Soliris                        | Myasthenia Gravis  |                | 2017 Q1   |                  | 2017 Q4           |
| ALXN1210                       | Paroxysmal Nocturnal Hemoglobinuria <sup>1)</sup>            |                | 2017 H1   |                  | 2018              |
| <b>Vertex Pharmaceuticals</b>  |  |                |           |                  |                   |
| VX-661                         | Cystic fibrosis (homozygous F508del) <sup>1)</sup>           |                | 2017 H1   |                  | 2018 H1           |
| Orkambi                        | Cystic fibrosis (homozygous F508del, age 6–11) <sup>1)</sup> |                | 2017 H1   |                  | 2018              |
| <b>Alnylam Pharmaceuticals</b> |  |                |           |                  |                   |
| Patisiran                      | Familial Amyloidotic Polyneuropathy <sup>1)</sup>            |                | 2017 H2*  |                  | 2018 H            |
| <b>PTC Therapeutics</b>        |  |                |           |                  |                   |
| Ataluren/Translarna            | Cystic Fibrosis <sup>1)</sup>                                |                | 2017 Q1*  |                  | 2018              |

\* Pivotal study  
<sup>1)</sup> Top-line results

## Orphan diseases in numbers

Various definitions of rare, predominantly inherited diseases exist. Orphan diseases are defined as conditions affecting fewer than five in 10 000 people in the EU and fewer than 7.5 in 10 000 people in the US. About 7 000 rare inherited diseases have been identified. Just under half of people affected are children, 30% of whom die of the disease before their fifth birthday. FDA-approved treatments are available for only 5% of orphan diseases at this time. Given the small patient populations involved, the pharmaceutical industry has little commercial incentive to develop drugs to treat orphan diseases. This has prompted a number of countries to enact legislation to promote the availability of drugs to treat these diseases.

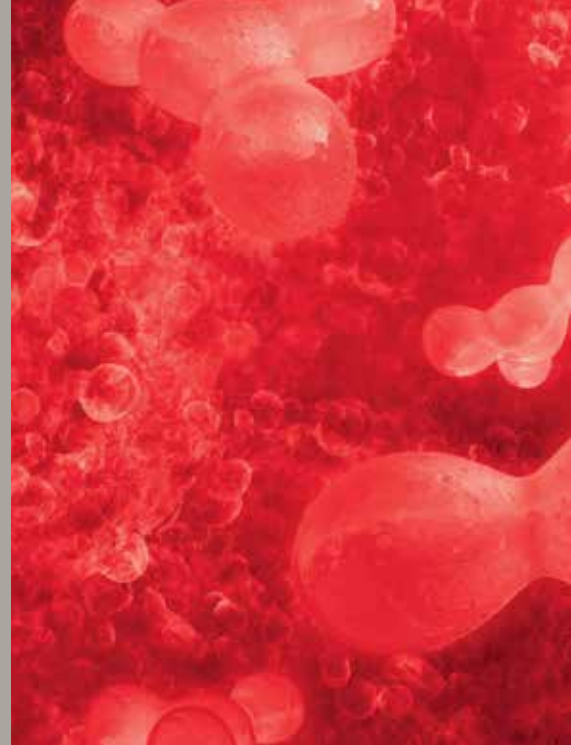
**NOT MEDICALLY TREATABLE DISEASES**

**95%**  
(of all orphan diseases)



11.0%

*Metabolic diseases* may be hereditary or acquired. The spectrum ranges from «lifestyle diseases» like diabetes to rare, fatal hereditary disorders. Metabolic diseases are increasingly attracting the attention of the biotech industry.



Picture: Fat cells

### BB Biotech's positions

|                           |      |
|---------------------------|------|
| Radius Health             | 5.3% |
| Novo Nordisk              | 3.5% |
| Myovant Sciences          | 1.3% |
| Intercept Pharmaceuticals | 0.9% |

### NUMBER OF PEOPLE WITH DIABETES

**422 mn**

(2014, WHO)

### Sector overview

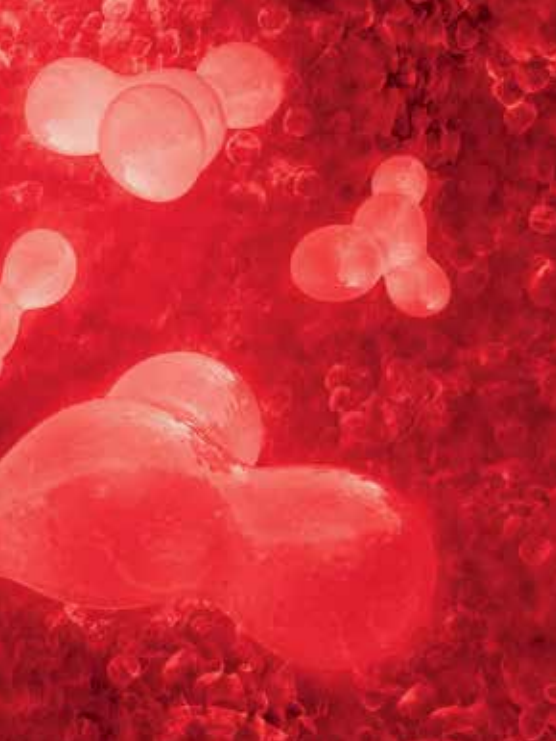
Research activity in the metabolic disease sector is dominated by efforts to develop new methods for treating the two types of diabetes. The approval of the first bio-similar in the EU for the diabetes medication Lantus has added to the already intense competition. GLP receptor agonists that improve insulin secretion in the pancreas while reducing glucose production in the liver represent a more recent drug class. Novo Nordisk is the leader in the GLP-1 agonist class with Victoza, a product with a first-class mechanism of action. Another hopeful from the company's portfolio is Tresiba, an insulin analogue whose 40-hour duration of action enables once-daily dosing.

Another area of high unmet medical need is metabolic diseases of the liver. One such condition is non-alcoholic fatty liver disease and related complications, known as non-alcoholic steatohepatitis (NASH). NASH is predicted to become the most common cause of costly liver transplants and liver cancer by as early as 2020. Intercept, a BB Biotech portfolio company, is expecting regulatory news flow on Ocaliva, the compound that is furthest along in clinical development and the first product candidate with antifibrotic effects in the liver. Ocaliva was granted fast-track status by the FDA in May 2016 for the treatment of primary biliary cirrhosis. The results of a clinical trial to treat NASH are expected in 2018.

Radius Health is specialized in developing treatments for diseases involving hormonal disorders. Abaloparitide successfully completed clinical trial phase III in post-menopausal osteoporosis (PMO). Radius is also developing a transdermal patch delivery system in collaboration with 3M designed to make treatment much more convenient for women with this condition.







**Dr. Christian Koch**  
Investment Management Team

«Non-alcoholic fatty liver (NAFLD) and the more advanced form termed NASH are the most common liver disorders in developed countries, driven by Western diet and lifestyle. Direct medical cost associated to NAFLD is estimated around USD 100 billion per year in the US alone. NASH will be the leading cause for liver transplants by 2020.»



## Highlights research & development

| Company                          | Indication                     | Clinical Phase |           | Regulatory Phase |                   |
|----------------------------------|--------------------------------|----------------|-----------|------------------|-------------------|
|                                  |                                | Phase II       | Phase III | Filing           | Expected approval |
| <b>Radius Health</b>             |                                |                |           |                  |                   |
| Abaloparatide                    | Osteoporosis                   | █              | █         | █                | 2017              |
| <b>Novo Nordisk</b>              |                                |                |           |                  |                   |
| Tresiba                          | Label update                   | █              | █         | █                | 2017              |
| Victoza                          | Label update                   |                |           | 2017             | 2018              |
| <b>Myovant Sciences</b>          |                                |                |           |                  |                   |
| Relugolix – Japan                | Uterine fibroid <sup>1)</sup>  | █              | 2017 H2   |                  | 2019              |
| Relugolix                        | Uterine fibroid <sup>2)</sup>  | █              | 2017 H1   |                  | 2020              |
| <b>Intercept Pharmaceuticals</b> |                                |                |           |                  |                   |
| Obeticholic Acid (OCA)           | NASH lipid study <sup>1)</sup> | 2017 H2        |           |                  | 2019 H2           |

<sup>1)</sup> Top-line results

<sup>2)</sup> Initiation results

## Metabolic diseases in numbers

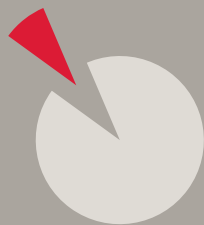
The first World Health Organization (WHO) global report on diabetes estimated that 422 million people had the world's most widespread metabolic disorder in 2014, a prevalence almost four times higher than in 1980. With 102.9 million patients, the emerging market of China heads the statistics, followed by India (64.5 million) and the USA (22.4 million). As with cardiovascular disease, an unhealthy lifestyle with too little exercise and too much fat in the diet is the main cause. Up to 10% of diabetics have type 1 diabetes. The associated deficient production of insulin is caused by an autoimmune disorder leading to the destruction of insulin-producing beta cells in the pancreas. Insulin accounts for about half of the USD 35 billion market for diabetes treatments. The pharma companies Novo Nordisk, Sanofi, Merck & Co and Eli Lilly are the four biggest players in this market, led by Novo Nordisk, which claimed 29% of the market in 2014.

**COST OF MEDICAL TREATMENT FOR NAFLD IN THE US**

# 100 bn

(Estimate in USD, per year)

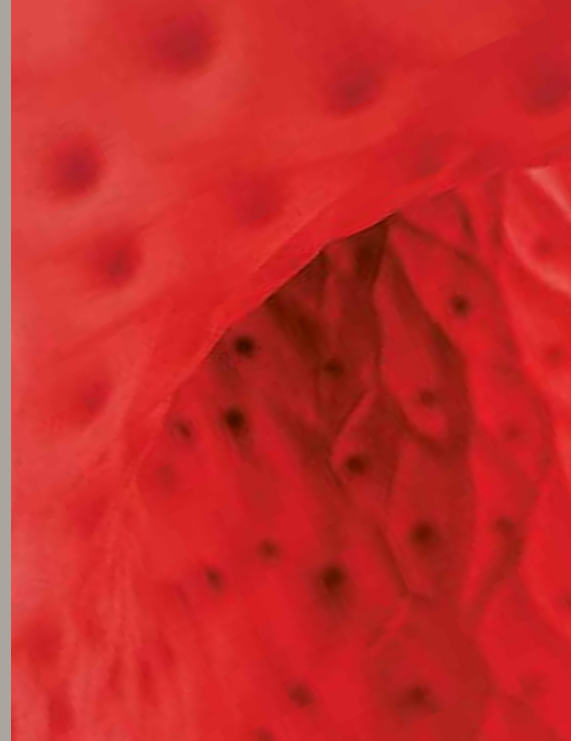




8.7%

## Cardiovascular diseases

are still the leading cause of death worldwide. A westernized lifestyle is one of the main risk factors. Timely prevention, detection and treatment are major goals. New treatment approaches from biotech labs stand to benefit patients and the healthcare system.



Picture: Inside of a human vessel

### BB Biotech's positions

|                       |      |
|-----------------------|------|
| Actelion              | 8.1% |
| Esperion Therapeutics | 0.5% |

### PEOPLE WITH CARDIOVASCULAR DISEASES

>160 mn

(USA and industrial countries)

### Sector overview

Because of the large patient populations involved and the associated cost of extensive clinical studies, the development of new drugs to treat cardiovascular disease has largely been the preserve of big pharma. Increasingly stringent requirements for demonstration of benefit by new drugs are adding to the challenges. Given the existing availability of a wide variety of treatment options, new drug developers can demand higher prices from health insurance providers only if the drug demonstrably constitutes a medical breakthrough. PCSK9 inhibitors, a new class of cholesterol lowering drugs, were launched with high expectations. Intended as superior replacements or for additional lowering compared with conventional statins whose patent protection has expired over the past few years and which are now being sold as generics, these new drugs are finding themselves in a tough market. Regeneron Pharma received approval in summer 2015 for Praluent from the emerging class of PCSK9 inhibitors and is battling for market share with Amgen's Repatha, which was approved at around the same time. Healthcare payers are curbing the use of this relatively expensive new drug class (which comes with a price tag of approximately USD 14,000 per patient) at the moment, citing a current lack of proof of long-term effectiveness. Another BB Biotech portfolio company, Alnylam, has a new therapeutic approach based on switching off specific gene fragments that cause disease. Ionis Pharma already has approval for a lipid lowering agent, Kynamro, in this area, and another clinical candidate based on the company's proprietary antisense technology platform. Again, the strategy is to block the specific parts of genes that cause disease. Esperion's candidate ETC-1002 is intended mainly for patients who are unable to tolerate conventional statins or still have high cholesterol despite statin treatment. The company expects to file for FDA approval in 2018. The decisive question will be whether interim results suffice to obtain fast-track approval for ETC-1002 in 2019. Swiss firm Actelion has occupied a lucrative niche market with drugs for pulmonary hypertension (high blood pressure in the lungs), a life-threatening disease associated with serious impairment of lung and heart function.



**Dr. Daniel Koller**  
Head Investment Management Team

«Life expectancy of PAH patients has extended substantially over the past 20 years with now four drug classes available. Actelion's recently launched Opsumit and Uptravi have set new gold standards in PAH clinical trials as the first oral medications to demonstrate a benefit on morbidity/mortality.»



## Highlights research & development

| Company                      | Indication                           | Clinical Phase |           | Regulatory Phase |                   |
|------------------------------|--------------------------------------|----------------|-----------|------------------|-------------------|
|                              |                                      | Phase II       | Phase III | Filing           | Expected approval |
| <b>Actelion</b>              |                                      |                |           |                  |                   |
| next-generation ERA          | Resistant hypertension <sup>2)</sup> |                | 2017      |                  | n.a.              |
| <b>Esperion Therapeutics</b> |                                      |                |           |                  |                   |
| ETC-1002                     | Hypercholesterolemia <sup>1)</sup>   |                | 2017 Q4   |                  | 2020              |

<sup>1)</sup> Top-line results

<sup>2)</sup> Initiation results

## Cardiovascular diseases in numbers

According to IMS Health estimates, cholesterol lowering drugs and blood thinners account for more than half of cardiovascular drug sales. Over half of the population in the US alone has high cholesterol, which is a risk factor for heart attacks and strokes. 60 million Americans and another 100 million people in industrialized countries have cardiovascular damage of one kind or another. Cardiovascular disease is responsible for one-quarter of annual deaths in the US. The incidence is also soaring in emerging and developing countries amid growing prosperity and the associated unhealthy lifestyle. Anticoagulants and antithrombotic agents are the fastest growing drug classes. SG Cowen analysts expect their share of the total market to climb to 23% by 2020. This would bring them into second place after cholesterol lowering drugs, which would maintain their position at the head of the rankings with a 25% share.

NUMBER OF PEOPLE WITH HIGH CHOLESTEROL

>50%

(of the US population, IMS Health)



8.0%

## Neurological disorders

include conditions such as Alzheimer's, Parkinson's and multiple sclerosis for which few effective treatment options currently exist. Biotech firms are starting to deliver new treatment approaches for neurological disorders and may help in this way to meet the high unmet medical need.

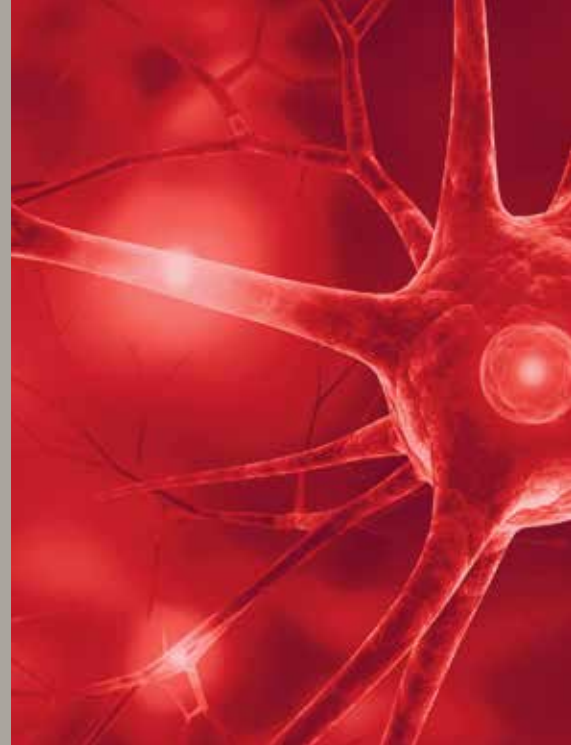


Image: Nerve cell in action

### BB Biotech's positions

|                          |      |
|--------------------------|------|
| Neurocrine Biosciences   | 3.9% |
| Sage Therapeutics        | 1.7% |
| Alder Biopharmaceuticals | 1.1% |
| Intra-Cellular Therapies | 0.8% |
| Probiodrug               | 0.6% |

### PEOPLE WITH DEMENTIA 2059

# 120 mn

(Estimate, World Alzheimer Report)

### Sector overview

Because of the wide gaps in our understanding of what triggers neurological disease, there are more clinical setbacks in neurology than in almost any other area of drug development. Alzheimer's is a good example. Following the latest failure, this time at the pharmaceutical company Eli Lilly, Biogen and Roche are the two players left with the most advanced clinical candidates. Probiodrug, a German company in BB Biotech's portfolio that has been listed on Euronext since October 2014, is expected to release its first data from an efficacy study in 2017 for its furthest developed drug entity, PQ912. The results will determine the design of future studies and whether an alliance partner can be found. PQ912 targets pyroglutamate-Abeta, a protein molecule believed to trigger the buildup of toxic beta-amyloid plaques in the neurons of people with Alzheimer's.

A new approach for treating chronic migraine is also showing great promise. One of the four companies with CGRP (Calcitonin Gene Related Peptide) inhibitors in the final stages of clinical development, and which could be introduced to the market in 2018, is Alder Biopharma, a recent addition to BB Biotech's portfolio. Alder's antibody ALD 403 blocks calcitonin, a peptide that triggers migraine headaches and the associated sensitivity to pain, light and noise. Another BB Biotech investment, Neurocrine Biosciences, is nearing a crucial deadline for its first pipeline product. On April 11, 2017, the relevant FDA office will deliver the outcome of priority review of Ingrezza for approval in the treatment of tardive dyskinesia. Dyskinesia is characterized by involuntary movements occurring as a side effect of treatment with psychoactive drugs. There are no approved therapies for this neurological disorder, which affects 500 000 people in the United States alone.





**Dr. Stephen Taubenfeld**  
Investment Management Team

«While novel, disease-modifying therapies targeting neurodegenerative disorders such as Alzheimer's and Parkinson's disease remain elusive prizes in medicine, new product cycles in several neuro-psychiatric indications are nearby. For example, migraine prevention or entirely novel treatments for schizophrenia and depression may also reach the market in the next few years.»



## Highlights research & development

| Company                         | Indication  | Clinical Phase |           | Regulatory Phase |                   |
|---------------------------------|---|----------------|-----------|------------------|-------------------|
|                                 |   | Phase II       | Phase III | Filing           | Expected approval |
| <b>Neurocrine Biosciences</b>   |   |                |           |                  |                   |
| Valbenazine                     | Tardive Dyskinesia                                      | █              | █         | █                | 2017              |
| <b>Sage Therapeutics</b>        |   |                |           |                  |                   |
| SAGE-547                        | Super-refractory status epilepticus <sup>1)</sup>       | █              | 2017 H1   | █                | 2018 H1           |
| SAGE-547                        | Moderate and severe postpartum depression <sup>1)</sup> | █              | 2017 H2   | █                | 2018 H2           |
| <b>Alder Biopharmaceuticals</b> |   |                |           |                  |                   |
| ALD-403                         | Frequent episodic migraine <sup>1)</sup>                | █              | 2017 Q2   | █                | 2018              |

<sup>1)</sup> Top-line results

## Neurological disorders in numbers

New drug discovery and development in neurology focuses on depression, schizophrenia, migraine, Alzheimer's and addiction. Alzheimer's represents the greatest unmet medical need within the field of neurological diseases. According to the latest World Alzheimer Report, the global prevalence of dementia is set to treble to 120 million by 2059 as the global population ages. Industry experts believe the first drug with a direct impact on disease progression could generate annual peak sales of up to USD 15 billion. Parkinson's is another neurological disease whose prevalence is rising as a result of demographic trends. It affects 1% of people over 60 and 4% of people over 80 years of age. The NeuroDerm organization estimates that 6.3 million people have Parkinson's, including 1.2 million in the EU and 1 million in the United States. 42% have mild Parkinson's and 16% are afflicted with a severe form of the disease.

### MARKET POTENTIAL OF ALZHEIMER'S DRUGS

**15 bn**

(USD, estimate)

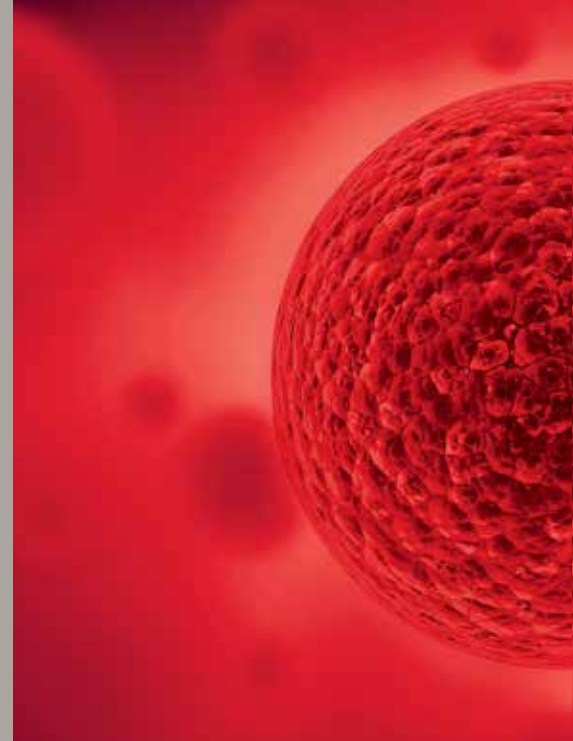




7.2%

*Infectious diseases* have declined due to improved hygiene, vaccines and the use of antibiotics, but new epidemics still break out.

Biotech drugs have transformed potentially fatal infectious diseases into chronic conditions with a practically normal life expectancy (HIV) or cured them outright (hepatitis C).



Picture: Virus particle

### BB Biotech's positions

|                           |      |
|---------------------------|------|
| Gilead                    | 6.3% |
| Cidara Therapeutics       | 0.3% |
| Novavax                   | 0.3% |
| Achillion Pharmaceuticals | 0.2% |

### CURE RATE HEPATITIS C

**95%**

(of all patients with Sovaldi/Harvoni)

### Sector overview

Novel treatment approaches in recent years have transformed hepatitis C into an infectious disease with a permanent cure. The big breakthrough came with the approvals for Sovaldi in December 2013 and Harvoni in October 2014. Both drugs emerged from the laboratories of Pharmasset, a biotech company acquired by Gilead Sciences at the end of 2011. The novelty of the mechanism of action is that it prevents the hepatitis C virus from replicating. In clinical trials, administration of the drugs in a once-daily pill over a period of two to three months eliminated all traces of the virus in the blood in more than 95% of study patients. For Gilead Sciences, the two products amounted to a big success. Harvoni and Sovaldi together generated USD 19.1 billion in sales in 2015. The figures reflect the pricing clout that comes from being first to market. A course of treatment initially came with a price tag of USD 90 000 (gross) per patient. The launch of rival products – AbbVie's Viekira Pak and Merck & Co's Zepatier – has added to the competition and brought down prices. After discounts, the drugs now fetch net prices amounting to about 50% of the original list prices. Gilead countered recently with a triple combination, Epclusa, a pan-genotypic (i.e., covers every variant of hepatitis C) HCV therapy for 12-week treatment. Any further innovations can only be achieved through shorter treatment times with no loss of effectiveness. A flatter growth curve overall is likely in the medium to long term as market penetration rises.

While a new generation of drugs is already under clinical development in hepatitis C, a breakthrough in the treatment of hepatitis B is yet to come. Gilead is developing a drug candidate in clinical Phase III and is banking on the HIV drug Viread to replace its hepatitis B drug Hepsera when the latter's patent expires. A three-drug combination is now the standard of care in the treatment of HIV. Gilead has topped sales rankings since 2007 for drugs that have transformed HIV infection from a fatal disease to a chronic medical condition, but is facing increasing competition from new products from GlaxoSmithKline. Gilead has launched three new drugs in this area since 2015, i.e., Odefsey, Genvoya and Descovy.





**Felicia Flanigan**  
Investment Management Team

«HIV and HCV remain prevalent diseases worldwide. Gilead has been the leader in transforming HIV to a chronic disease and curing the population of HCV. These multi-billion-dollar markets are highly competitive, and novel combinations continue to advance.»



## Highlights research & development

| Company                          | Indication                                     | Clinical Phase |           | Regulatory Phase |                   |
|----------------------------------|--|----------------|-----------|------------------|-------------------|
|                                  |  | Phase II       | Phase III | Filing           | Expected approval |
| <b>Gilead</b>                    |  |                |           |                  |                   |
| Bictegravir (GS-9883)            | HIV <sup>1)</sup>                              | █              | 2017 Q3   | █                | 2018              |
| Voxilaprevir (GS-7977)           | HCV  | █              | █         | █                | 2017 H2           |
| <b>Cidara Therapeutics</b>       |  |                |           |                  |                   |
| CD101 Topical                    | Recurrent vulvagenal candidiasis <sup>1)</sup> | 2017 Q1        | █         | █                | 2021              |
| <b>Novavax</b>                   |  |                |           |                  |                   |
| RSV Maternal Immunization        | Respiratory Syncytial Virus <sup>1)</sup>      | █              | 2017 H2   | █                | 2019              |
| <b>Achillion Pharmaceuticals</b> |  |                |           |                  |                   |
| ACH-3102                         | Hepatitis C <sup>1)</sup>                      | █              | 2017 Q4   | █                | 2018              |

<sup>1)</sup> Top-line results

## Infectious diseases in numbers

Commercial drug development to combat infectious diseases can be divided broadly into HIV, hepatitis and fungal infections, antibiotics and vaccines. The biggest player in this market with sales in the neighborhood of USD 60 billion is Gilead Sciences, followed by the pharma companies Merck & Co, GlaxoSmithKline and Pfizer. HIV, hepatitis B and hepatitis C are among the most highly prevalent infectious diseases worldwide. According to WHO estimates, 500 million people have chronic hepatitis B and 170 million people have hepatitis C, including three to five million patients in the US and up to ten million in Europe. Five percent of people with chronic hepatitis C infection go on to develop liver failure or liver cancer. UN estimates indicate that approximately 35 million people have HIV infection. The number of undiagnosed cases is believed to be much higher. Only 46% of those affected have access to vital HIV drugs.

NUMBER OF PEOPLE WITH HEPATITIS B

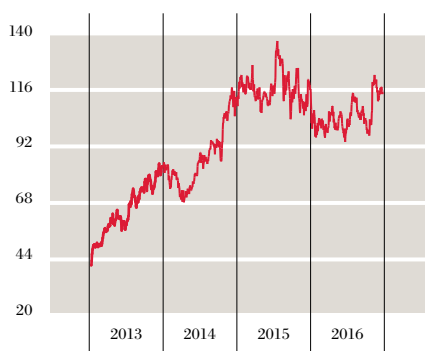
**500 mn**

(worldwide)

MARKET CAPITALIZATION

89.7 bn

In USD as at 12/31/16



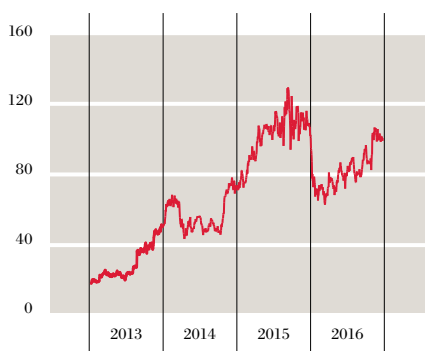
**Celgene**

Celgene is a global biopharmaceutical company that specializes in oncology and inflammatory diseases. The company has very strong fundamentals and positive long-term prospects based on Revlimid in multiple myeloma, MDS, and other hematological malignancies, Pomalyst in multiple myeloma, Otezla in psoriatic arthritis and psoriasis, and its robust pipeline of early-stage products. We expect Revlimid US revenue to continue to grow more than 15% per year, driven by the combined effects of increased prevalence, penetration, duration of treatment, and solidification as the backbone therapy in novel combinatory regimens. The company's acquisition of Receptos broadened their immunology and inflammation franchise beyond Otezla by gaining access to Ozanimod in Phase III trials for both MS and IBD. We expect positive news flow from both Celgene and their partners' products in a variety of novel cancer combinations and settings over the next two to three years. Celgene now appears to be rapidly moving toward immuno-oncology by recently gaining partial rights to Darvalumab from AstraZeneca for hematologic malignancies as well as their strategic collaboration with Juno to develop T-cell-based therapies for cancer and autoimmune diseases. The company continues to make strategic deals to bolster its pipeline with promising opportunities.

MARKET CAPITALIZATION

18.9 bn

In USD as at 12/31/16



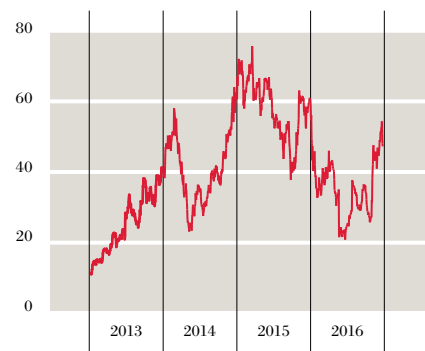
**Incyte**

Incyte is focused on hematologic disorders, inflammatory disorders, and cancer. Their marketed product is Jakafi, an oral JAK-2 inhibitor that showed highly positive Phase III results in patients with myelofibrosis and polycythemia vera (PV), leading to approval in 2011 and 2014, respectively. Together, we estimate that myelofibrosis and PV represent a USD 3+ bn market opportunity in the US and Europe. In 2013, Incyte reported positive data from a Phase II trial with Jakafi in pancreatic cancer patients with cachexia. Incyte started a Phase III trial in this group in H1 of 2014, but results reported in 2016 were negative. In November 2009, Novartis licensed ex-US rights to Jakafi in a deal valued at almost USD 1.0 bn. A second-generation JAK-2 inhibitor, Baracitinib, posted positive data from several Phase III trials in rheumatoid arthritis in 2015 and we expect launch into this large market in 2017, with Incyte receiving royalties from partner Eli Lilly. Progress on other cancer compounds in its pipeline, including IDO inhibitor Epacadostat, also continues. Indeed, encouraging early results with the combination of Epacadostat and Merck's PD1 inhibitor Keytruda in multiple tumor types were reported in November 2015 and a Phase III trial in melanoma patients is underway. We expect additional Phase II data and Phase III trial initiations in 2017.

MARKET CAPITALIZATION

5.8 bn

In USD as at 12/31/16



**Ionis Pharmaceuticals**

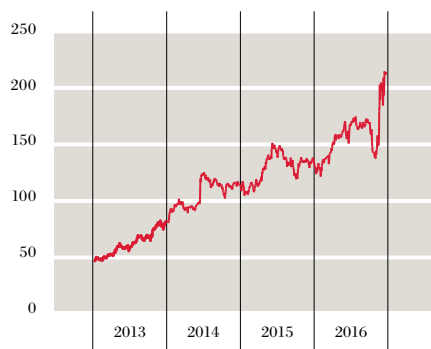
Ionis Pharmaceuticals is the leader in the space of antisense, with over 30 compounds in development using this technology. Antisense allows for the control of protein production at the genetic level. Our focus and investment strategy revolve around the technology platform, which demonstrated significant progress in 2016 with both partnered and proprietary compounds across various severe diseases. Spinraza was approved in late 2016 following two positive Phase III studies in spinal muscular atrophy, and is partnered with Biogen Idec. Looking forward, 2017 will be a transformational year with the readout of two important Phase III programs, multiple Phase II readouts, and additional compounds into the clinic. We believe the value creation within Ionis has just begun to emerge and will continue at a strong pace for the foreseeable future. Thus, Ionis remains an important and truly innovative investment in our portfolio.

Source: Bloomberg

MARKET CAPITALIZATION

# 23.4 bn

In USD as at 12/31/16



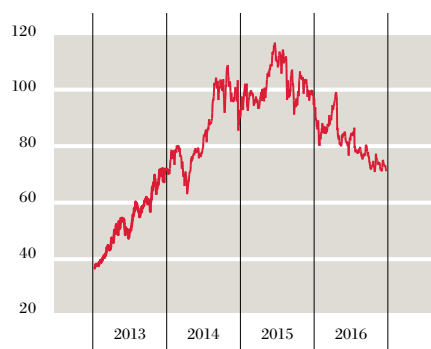
### Actelion

Actelion is Switzerland-based and one of the largest European Biotech companies. The firm focuses on the development of treatments for pulmonary arterial hypertension (PAH). Opsumit, the company's next-generation endothelin receptor antagonist (ERA), was approved in 2013 and continues to impress with now more than 20 000 patients on the drug globally. As a second potential blockbuster Actelion has launched the prostaglandin analogue Uptravi, a drug shown to reduce the risk of disease progression by 39% in PAH on top of existing therapies. As clinicians are aware of the need to start combination treatments sooner, we believe Actelion is in a good position to dominate this still growing market with its franchise. Following its successes in PAH, Actelion is looking to build an additional franchise in immunology with the S1P1 inhibitor Ponesimod and other successor molecules with an improved mechanism of action. Ponesimod is currently being investigated in various clinical trials, including two Phase III trials in multiple sclerosis having bagged an SPA agreement for one trial in combination with Tecfidera. Johnson & Johnson announced on 26 January 2017 an offer of USD 280 per Actelion share, valuing the company at USD 30 bn. Shareholders of Actelion will receive shares in the newly created R&D company that will continue to develop Actelion's earlier stage pipeline.

MARKET CAPITALIZATION

# 94.3 bn

In USD as at 12/31/16



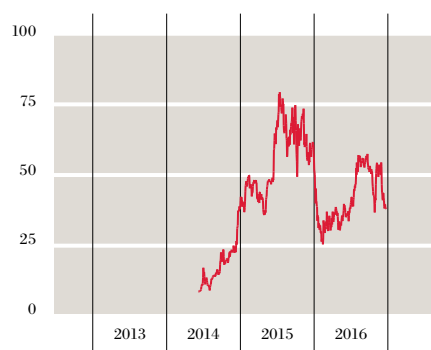
### Gilead

Gilead develops drugs primarily for infectious diseases such as HIV, hepatitis B, and hepatitis C, as well as cancer. The first product, Viread, was launched in 2001 and is now firmly established as a key component in treatment regimens for HIV. In 2004, the company launched Truvada (Viread plus Emtriva), which has become the backbone of therapy for the majority of HIV patients. In July 2006, Gilead launched Atripla, a once-daily fixed-dose tablet. Most recently, it launched regimens that include a replacement for Viread with a better long-term safety profile, which should enable it to maintain its leadership when Viread goes generic. The introductions of Hepsera and Viread established Gilead as an important player in the treatment of hepatitis B infection. Gilead acquired Pharmasset in early 2012, which enabled it to become the market leader in the USD 20+ bn hepatitis C space. Indeed, sales of its lead products, Sovaldi and Harvoni, reached over USD 12 bn in the first nine months of 2016. However, this declined from 2015, and we expect a continued decline in future years due primarily to pricing and competition. We believe the company will use its ample cash generated by its HIV and hepatitis C franchises to bolster its long-term growth rate with acquisitions.

MARKET CAPITALIZATION

# 1.6 bn

In USD as at 12/31/16



### Radius Health

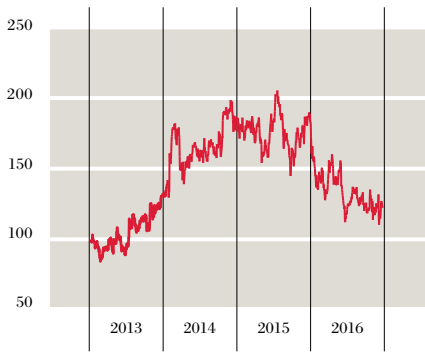
Radius Health is a company focused on women's health and oncology. Its lead product candidate is the subcutaneously delivered Abaloparatide, a synthetic human PTHrP analogue. The faster onset of action and reduction in fractures in nonvertebral sites like the hip and wrist versus Forteo are differentiating and should allow Abaloparatide to capture significant market share. We expect approval in H1 of 2017. Importantly, Radius is developing a transdermal patch formulation, which could greatly enhance the compliance and outcomes in women with this disease. Transdermal data presented in 2016 showed a meaningful improvement in its profile, and we expect a bioequivalence study to start following the SQ approval. Furthermore, the company has RAD1901, a selective estrogen receptor degrader (SERD), in development for estrogen-receptor-positive breast cancer. Early data recently presented showed responses in heavily pretreated patients, but we await more data throughout 2017 to further validate the drug's profile.

Source: Bloomberg

MARKET CAPITALIZATION

27.4 bn

In USD as at 12/31/16



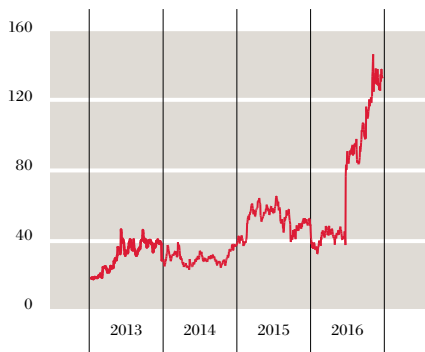
**Alexion Pharmaceuticals**

Alexion is developing drugs for rare disorders. Its lead product, Soliris, was approved in the US and Europe in 2007 for paroxysmal nocturnal hemoglobinuria (PNH). We expect continued penetration in the US, Europe, and Japan, to enable Soliris sales in PNH to reach about USD 2.0 bn. Atypical hemolytic uremic syndrome (aHUS) is the next indication for which Soliris gained approval in the US and Europe in 2011. We estimate it adds another USD 2.0 bn market opportunity for Soliris. Soliris is also in Phase III trials in myasthenia gravis and neuromyelitis optica. While the 2016 results in myasthenia gravis were mixed, we believe regulatory filings in early 2017 will lead to launch by the end of 2017. If approved as we expect, myasthenia gravis and neuromyelitis optica could add an additional USD 1.0 bn in sales. To maintain its dominance, Alexion is in advanced development with a next-generation Soliris that has an improved dosing profile. To diversify the revenue base away from Soliris, the company received approval of a novel compound for hypophosphatasia, Asfotase Alfa, in Q3 of 2015 and sales to date have exceeded expectations. In addition, Alexion gained Kanuma for lysosomal acid lipase (LAL) deficiency via its May 2015 acquisition of Synageva for USD 8.4 bn, and while the launch has been slow, the product should eventually be a more meaningful contributor to revenue.

MARKET CAPITALIZATION

7.2 bn

In USD as at 12/31/16



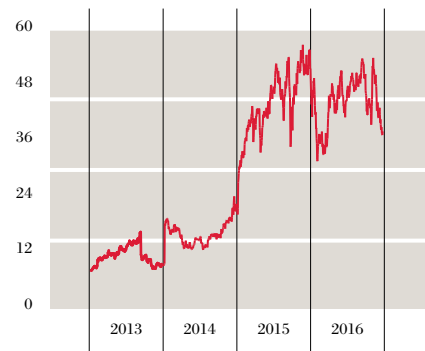
**Tesaro**

Lead product Rolapitant is a neurokinin-1 (NK-1) receptor antagonist that completed Phase III trials for the prevention of chemotherapy induced nausea and vomiting (CINV) in 2014. The results were positive and approval in the US was received in September 2015. Niraparib is a PARP inhibitor that had shown promising efficacy in patients with BRCA+ breast and ovarian cancer in early trials. In 2016, the company announced highly positive results from a Phase III trial in platinum-sensitive ovarian cancer and we expect approval with a broad label in 2017. A Phase III trial in BRCA+ breast cancer also started in Q4 of 2013 and we expect data later in 2017. Meanwhile, the company in-licensed several compounds that gave them an entry into the immuno-oncology space, and clinical trials with those targeting PD1, TIM-3, and LAG-3 are either underway or will begin in 2017.

MARKET CAPITALIZATION

3.4 bn

In USD as at 12/31/16



**Neurocrine Biosciences**

Neurocrine is a biopharmaceutical company with a focus on women's health and CNS disorders. Its lead candidate, Elagolix, is an oral GnRH antagonist in development for two indications, endometriosis and uterine fibroids. Endometriosis is a condition where part of the endometrium grows outside of the uterus leading to severe pain, painful intercourse, and bleeding. Uterine fibroids is a condition that can lead to painful menstruation and excessive bleeding, and potentially surgical removal of the uterus. Partner AbbVie already announced positive Phase III data from the endometriosis studies with filing expected in 2017. AbbVie also announced positive Phase II data in uterine fibroids, and started Phase III studies in 2016, with data expected in 2017. Neurocrine announced positive Phase III data with its wholly owned product, Valbenazine, in tardive dyskinesia, filed for approval in 2016, with approval expected in H1 of 2017. The company has also initiated Phase II studies in Tourette syndrome with data expected in 2017.

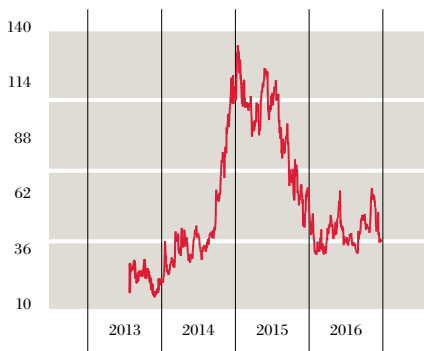
Source: Bloomberg



MARKET CAPITALIZATION

1.8 bn

In USD as at 12/31/16



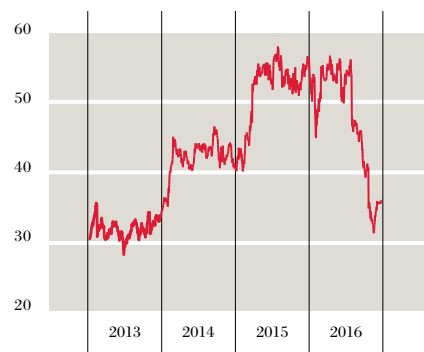
**Agios Pharmaceuticals**

The two most advanced oncology programs are targeting mutations in the isocitrate dehydrogenase 1 and 2 (IDH1 and IDH2) enzymes, which are implicated in hematologic malignancies and solid tumors. Data with IDH2 inhibitor AG-221, presented at the 2015 ASH meeting, were compelling and given the high response rate and well defined group of patients expected to benefit, we believe the path to market will be rapid and assume US and Europe approval by Q4 of 2017 and H1 of 2018, respectively. We estimate the worldwide market opportunity for AG-221 at USD 750 mn for AML alone. Celgene has worldwide rights to AG-221, and Agios will receive milestones and an estimated 15% royalty on sales. Data with IDH1 inhibitor AG-120 in AML, released at ASH 2016, were also promising and regulatory applications are possible in 2017. Results with AG-120 in rare solid tumors were not as compelling as hoped, and we include little revenue potential from these indications. Finally, the company is developing AG-348, a novel compound for the treatment of pyruvate kinase deficiency, that reported compelling proof-of-concept data in 2016 and should lead to the start of pivotal trials in 2017.

MARKET CAPITALIZATION

92.1 bn

In USD as at 12/31/16



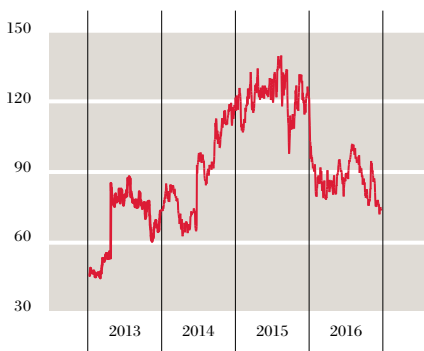
**Novo Nordisk**

Novo Nordisk is the world's largest producer and distributor of insulin. Tresiba should help drive Novo Nordisk's long-term growth in the modern insulin space and launched in the US in early 2016. Another growth driver is Victoza, a GLP-1 analogue with a best-in-class profile. Novo is the world-wide market leader in the GLP-1 drug class. In 2014, an FDA panel voted for approval of a higher dose formulation for obesity, which is now on the market. Novo's once-weekly GLP-1 analogue, Semaglutide, has completed multiple Phase III studies and could launch in 2018. Additionally, we expect oral GLP-1 compound to garner more attention through 2017 as we will see Phase III data start to emerge in 2018. In 2016, Novo refined its long-term growth expectations downward, as the entire insulin market is facing pricing headwinds in the US. We expect to get more clarity around this in 2017.

MARKET CAPITALIZATION

18.3 bn

In USD as at 12/31/16



**Vertex Pharmaceuticals**

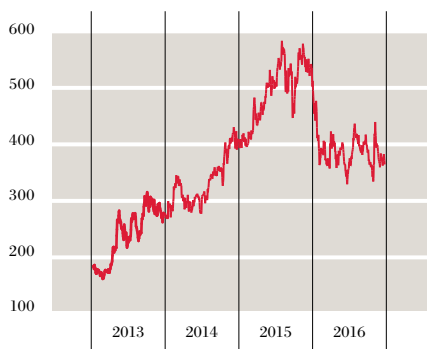
Vertex's core focus is cystic fibrosis. CFTR potentiator Kalydeco was launched in the US and Europe in 2012 for a subgroup of patients with cystic fibrosis following highly positive Phase III data. While the initial market opportunity is limited to around 5% of the population, we believe that sales could reach USD 1.0 bn with the inclusion of other small patient populations on the label. Positive Phase III results with the combination of Kalydeco and CFTR corrector VX-809, released in June 2014, enabled Vertex to begin to target the roughly 45% of patients who are homozygous for the most common mutation in the US and Europe in 2015. With this label inclusion, we expect sales of Kalydeco and the Kalydeco/VX-809 combination to reach approximately USD 4 bn. The company is also developing correctors that can be combined with Kalydeco and a first-generation corrector to target the remaining patients who are heterozygous for the mutation, with data from Phase II trials expected by the end of 2017.

Source: Bloomberg

MARKET CAPITALIZATION

38.7 bn

In USD as at 12/31/16



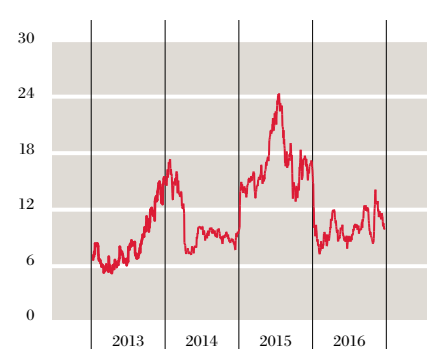
**Regeneron Pharmaceuticals**

Regeneron is focused on developing monoclonal antibodies, primarily in the ophthalmology, autoimmune, oncology, and cardiovascular spaces. The blockbuster success of Eylea, a VEGF inhibitor indicated for ophthalmic disorders, has been the primary driver of growth for the company. We expect near-term growth to continue in 2017 as Eylea gains broader adoption in wet AMD and expands into DME. Regeneron holds a partnership with Bayer Healthcare for the development, marketing, and sale of Eylea outside of the US. Regeneron also holds a partnership with Sanofi, with whom they have commercialized two products thus far and, more importantly, have a deep pipeline of assets the two partners are co-developing. Praluent for hypercholesterolemia was recently approved by the FDA for heterozygous familial hypercholesterolemia or clinical atherosclerotic cardiovascular disease patients who need additional lowering of LDL cholesterol. Sarilumab for rheumatoid arthritis has recently been filed for approval, while Dupilumab is also currently in review for atopic dermatitis and asthma. Notably, Regeneron has another 10+ wholly owned antibodies, several of which are currently in clinical development.

MARKET CAPITALIZATION

1.3 bn

In USD as at 12/31/16



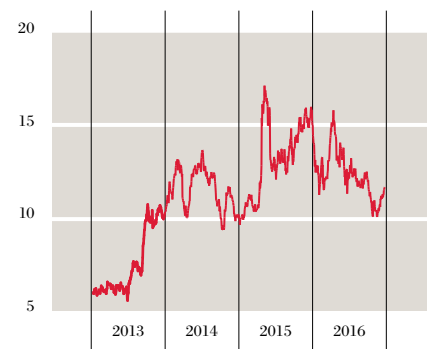
**Halozyme Therapeutics**

Halozyme Therapeutics is a biopharmaceutical company with two platforms in its business model. The first is based on partnerships with pharmaceutical companies that use its product rHuPH2o to prepare subcutaneous formulations of intravenous therapies. The company receives a steady flow of royalties from this arm. Partnered products include blockbusters like Avastin and Rituxan as well as newer products such as PCSK9 and Daratumumab. The second platform is PegPH2o, which is being tested in the treatment of pancreatic cancer and lung cancer. A Phase III study in pancreatic cancer has started enrollment in the first half of 2016. PegPH2o is also being tested in various combination regimens, including combinations with Merck's Keytruda and Eisai's Eribulin and various tumor types.

MARKET CAPITALIZATION

3.2 bn

In USD as at 12/31/16



**Swedish Orphan Biovitrum**

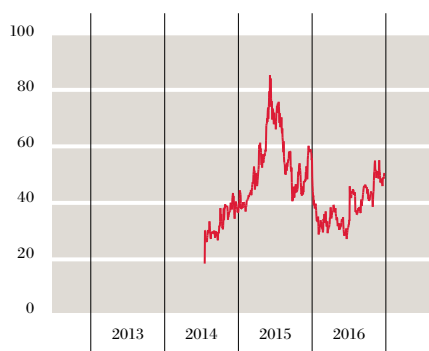
Swedish Orphan Biovitrum is focused on providing and developing specialty and orphan drug pharmaceuticals. The commercial portfolio consists of about 60 marketed products with main therapeutic areas being hematological diseases, autoimmune diseases, hereditary metabolic disorders, and therapeutic oncology. Their growth-driving products are recombinant fusion proteins of Factor IX (rFIXFc) and Factor VIII (rFVIII Fc) designed to exhibit substantially longer half-lives relative to first-generation recombinant proteins. Both long-acting factors are partnered with Bioverativ (recently spun off from Biogen) and marketed in the US as Eloctate (Elocta in the EU) for hemophilia A and Alprolix for hemophilia B. Under a cross-royalty agreement, Swedish Orphan Biovitrum is responsible for the EU markets whereas Bioverativ sells the product in the US and the rest of the world. In addition, the company's next-generation Factor VIII technology demonstrating even longer half-lives was recently added to the collaborative agreement between the two companies and should reach the clinic in 2017. With their high gross margins and low fixed operating costs, Swedish Orphan Biovitrum is well-positioned for years of long-term profitability.

Source: Bloomberg

MARKET CAPITALIZATION

# 1.9 bn

In USD as at 12/31/16



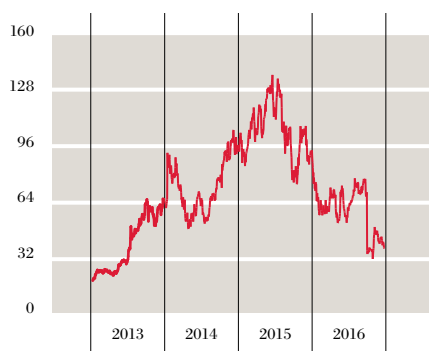
### Sage Therapeutics

Sage Therapeutics is a clinical-stage biopharmaceutical company focused on developing therapies for rare CNS disorders utilizing their GABA-A receptor-targeted proprietary platform. The company's lead program, SAGE-547, is in Phase III development as an IV treatment for super-refractory status epilepticus, a rare life-threatening condition of a persistent state of seizure. Such patients have failed first-line benzodiazepine therapy as well as second-line anticonvulsive drug therapy and are ultimately placed in a medically induced coma associated with poor neurological outcomes. SAGE-547 has also shown significant early clinical success in post-partum depression (PPD) and results from a Phase III pivotal study are due later this year. The company's follow-on oral GABA-A receptor-targeted compound, SAGE-217, is also being investigated in PPD, as well as in major depression, essential tremor and Parkinson's disease.

MARKET CAPITALIZATION

# 3.2 bn

In USD as at 12/31/16



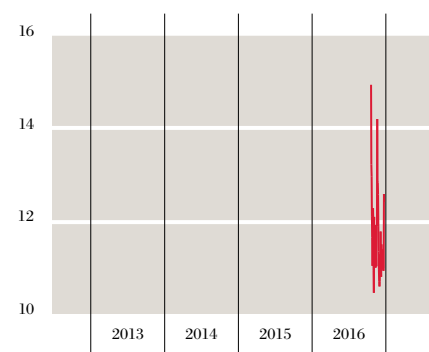
### Alnylam Pharmaceuticals

Alnylam Pharmaceuticals is the market leader in RNA interference (RNAi) therapeutics. This treatment approach selectively blocks the synthesis of specific disease-causing proteins. Alnylam has a broad pipeline of candidates, including six programs that have advanced to the clinical development stage. The furthest along the pipeline currently in Phase III testing is Patisiran which targets TTR amyloidosis, a rare and serious disorder in patients diagnosed with familial amyloidotic polyneuropathy (FAP). The company plans to report top-line data in mid-2017 and submit an application for approval to the FDA by end of the year. Other interesting programs include Fitusiran, which pursues a revolutionary approach in the treatment of hemophilia and rare bleeding disorders, and givosiran for the treatment of acute hepatic porphyrias. Both RNAi therapeutics will enter Phase III development this year. Alnylam continues to support its collaboration with The Medicines Company in their advancement of Inclisiran into Phase III studies which investigates RNAi disruption of PCSK9 for the treatment of hypercholesterolemia. Data thus far have been supportive of a once-quarterly and possibly bi-annual subcutaneous dose regimen which has obvious advantages over recently approved PCSK9 antibody therapies.

MARKET CAPITALIZATION

# 749 mn

In USD as at 12/31/16



### Myovant Sciences

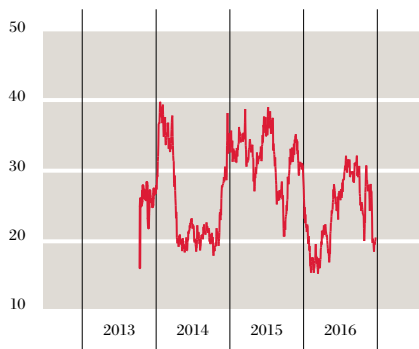
Myovant is a biopharmaceutical company with a focus on endocrinology in women's and men's health. Its lead candidate, Relugolix, is an oral GnRH antagonist in development for three indications, endometriosis, uterine fibroids, and advanced prostate cancer. Endometriosis is a condition where part of the endometrium grows outside of the uterus leading to severe pain, painful intercourse, and bleeding. Uterine fibroids is a condition that can lead to painful menstruation and excessive bleeding, and potentially surgical removal of the uterus. Advanced prostate cancer is cancer of the prostate that continues to grow despite castration and/or radiation. Partner Takeda already announced positive Phase II data from all three indications, with Phase III studies to start across all indications in H1 of 2017. Furthermore, in 2017 Takeda expects to announce Phase III data with its Japanese uterine fibroid studies in H2 of 2017. Myovant owns worldwide rights outside of Asia.

Source: Bloomberg

MARKET CAPITALIZATION

712 mn

In USD as at 12/31/16



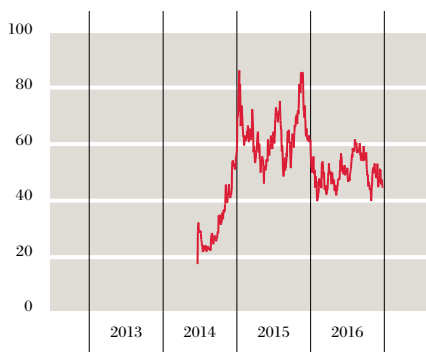
**MacroGenics**

MacroGenics has eight compounds in clinical development that were generated using its propriety Fc-optimization technology that simultaneously reduces/enhances binding to inhibitory/activating FcγRs, thus dramatically increasing antibody-dependent cellular cytotoxicity (ADCC), and its DART (dual-affinity re-targeting) platform. The company believes its DART platform has overcome the challenges of construct instability and short half-lives encountered by other dual-specific antibodies by incorporating proprietary covalent di-sulfide linkages and particular amino acid sequences that efficiently pair the chains of the DART molecule. This results in a structure with enhanced manufacturability, long-term structural stability, and the ability to tailor the half-lives of the DARTs to their clinical needs. Data from clinical trials with multiple products, including immuno-oncology agent MGA271, are expected through 2017. The company has ongoing partnerships with Boehringer Ingelheim, Gilead, Johnson & Johnson, Pfizer, Servier, and Takeda, and aims to file at least one new IND per year.

MARKET CAPITALIZATION

2.2 bn

In USD as at 12/31/16



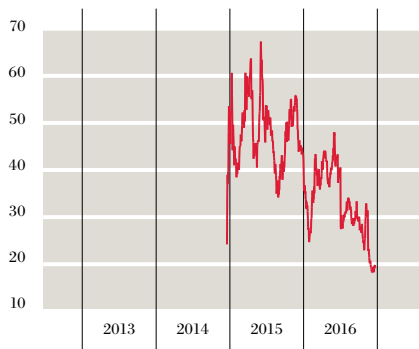
**Kite Pharma**

With its key collaborator the National Cancer Institute (NCI), Kite Pharma is a leader in the development of chimeric antigen receptor (CAR) T cells for cancer. The lead compound is KTE-019, a CD19 targeting CAR-T product. A 32-patient Phase I/II trial showed an overall response rate (ORR) of 76% and a complete response (CR) rate of 38% in 29 patients with CD19 positive B cell malignancies. In the 19 patients who had relapsed/refractory diffuse large B-cell lymphoma (DLBCL) the ORR was 68% and the CR rate was 47%, and the responses were durable. Based on these results, a pivotal trial for KTE-C19 in third-line DLBCL began in Q2 of 2015 and following positive initial data in 2016 we expect approval in the US and Europe in Q4 of 2017. Promising data with KTE-C19 in other hematologic malignancies have also been shown, and potentially pivotal trials in mantle cell lymphoma and acute lymphoblastic leukemia are underway. Finally, the company has multiple T cell receptor (TCR)-based products that target solid tumors and will begin trials in 2017/2018.

MARKET CAPITALIZATION

2.0 bn

In USD as at 12/31/16



**Juno Therapeutics**

With its collaborators Memorial Sloan-Kettering Cancer Center, Fred Hutchinson Cancer Research Center, and Seattle Children's Research Institute, Juno is a leader in the development of chimeric antigen receptor (CAR) T cells for cancer. The lead compound in development is JCAR015, which targets CD19 for patients with relapsed/refractory acute lymphoblastic leukemia (ALL). Results from a Phase I/II trial at ASH 2015 showed a 82% complete response rate in 50 evaluable adult relapsed/refractory ALL patients, with 66% achieving complete molecular remission. The positive data led to the start of a pivotal trial with JCAR015 that was twice put on clinical hold in 2016 due to patient deaths from cerebral edema. While it is unclear if this product will move forward, an additional CAR-T product, JCAR017, is moving forward rapidly with partner Celgene. Indeed, following positive results in lymphoma at ASH 2016, we expect this product to enter a pivotal trial for this indication in early 2017, with potential approval to follow by the end of 2018. Meanwhile, Phase I/II trials with additional CARs targeting solid tumors should begin to yield data in 2017.

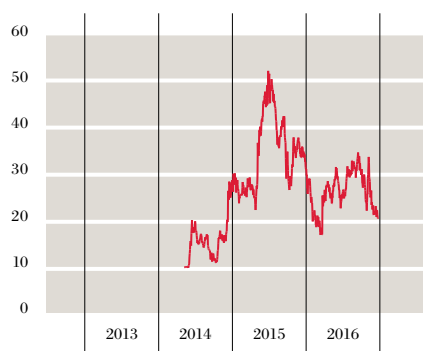
Source: Bloomberg



MARKET CAPITALIZATION

# 1.0 bn

In USD as at 12/31/16



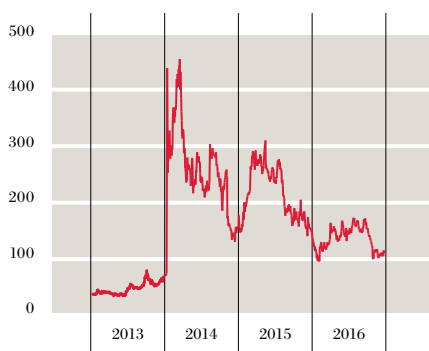
### Alder Biopharmaceuticals

Alder is a clinical-stage company with a differentiated antibody discovery and manufacturing platform to design and select antibodies that have the potential to maximize efficacy in various therapeutic indications including inflammatory and neurological conditions. Their lead and wholly owned clinical candidate, ALD403 (Eptinezumab), is an antibody that inhibits calcitonin gene-related peptide (CGRP), a well-validated molecular target shown to trigger migraine attacks. Eptinezumab is currently undergoing Phase III clinical testing for the prevention of both chronic and frequent episodic migraines. Earlier Phase IIa and Phase IIb data were highly significant and notable for achieving rapid, robust and durable efficacy, in many instances that lasted out to six months. Alder is the only company with an anti-CGRP asset that is developing a durable intravenous formulation to be administered by neurologists in-office – an infusion that could be potentially given only twice per year compared to monthly or biweekly self-administered subcutaneous injections at home. A self-administration strategy for Eptinezumab to be dosed every three months is also being developed in parallel. The company has three additional programs in preclinical stage expected to enter the clinic in the future.

MARKET CAPITALIZATION

# 2.7 bn

In USD as at 12/31/16



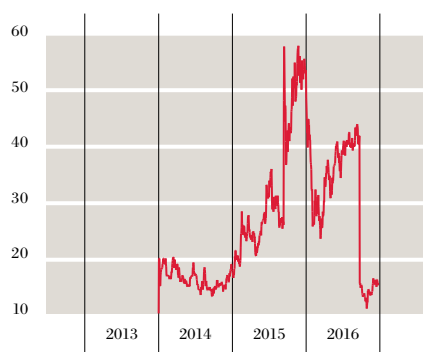
### Intercept Pharmaceuticals

Intercept Pharmaceuticals is a NYC-based biotech company focused on the development of synthetic bile acid analogs for the treatment of cholestatic liver diseases. This disease area primarily includes the highly prevalent non-alcoholic fatty liver disease (NAFLD) and non-alcoholic steatohepatitis (NASH) as well as the orphan diseases primary biliary cirrhosis (PBC) and primary sclerosing cholangitis (PSC). Intercept's lead product is obeticholic acid (OCA), a first-in-class farnesoid X receptor (FXR) agonist. OCA has been approved in the US in H1 of 2016 and at the end of the year in Europe. As a second and commercially far more attractive indication, Intercept also started a pivotal trial for NASH (liver inflammation induced by excessive fat) at the end of last year. Results from this trial are expected to be published in late 2018 / early 2019. NASH, being an obesity and metabolic syndrome-linked disease, has the potential to take on epidemic proportions in western and emerging societies over the coming years. It has been projected to be the leading cause of costly liver transplants and liver cancer by 2020. With currently no drug approved, there clearly is an unmet medical and health economic need for new treatments. Intercept's OCA is the drug furthest in development for NASH and the first to show an anti-fibrotic effect in the liver.

MARKET CAPITALIZATION

# 653 mn

In USD as at 12/31/16



### Intra-Cellular Therapies

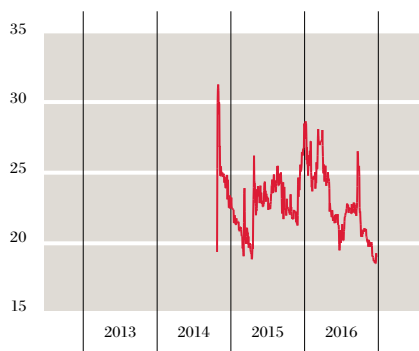
Intra-Cellular Therapies is a biopharmaceutical company developing treatments for disorders that affect the central nervous system. Their wholly owned lead product candidate is ITI-007, a 5-HT<sub>2A</sub> serotonin receptor antagonist that also modulates dopamine and serotonin transporters, which recently completed two Phase III clinical trials for the treatment of schizophrenia. ITI-007 could prove highly differentiated from other anti-psychotics due to its ability to modulate multiple neurotransmitter pathways simultaneously. This was demonstrated in their first pivotal Phase III trial which showed strong efficacy and placebo-like safety. Tolerability and compliance on current schizophrenia therapies is challenging due to a range of motor and metabolic side effects, which is where ITI-007 has proven to be differentiated. Intra-Cellular is also evaluating ITI-007 in a Phase III trial for the treatment of bipolar depression to be completed by the end of 2017, while another Phase III trial was initiated in late 2016 for treating agitation in patients with dementia, including Alzheimer's disease.

Source: Bloomberg

MARKET CAPITALIZATION

156 mn

In USD as at 12/31/16



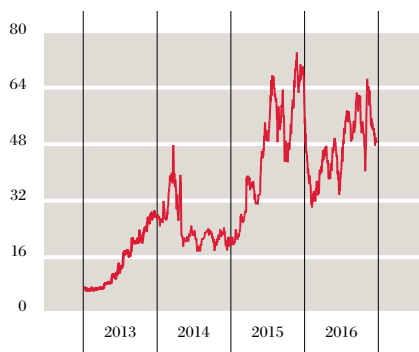
**Probiodrug**

Probiodrug is a biotechnology company, located in Halle, Germany, focused on the development of innovative small molecule drugs for the treatment of Alzheimer’s disease (AD). The company holds a dominant position in the area of glutaminyl cyclase (QC) inhibition. The role of QC in AD and other inflammatory diseases was discovered, and is comprehensively IP-protected, by Probiodrug. A Phase I study with its lead compound, PQ912, is complete, demonstrating a clean safety profile and initial target inhibition. A Phase II study recently completed enrollment, with data expected in H1 of 2017. The company was founded in 1997, and pioneered the field of DPP4 inhibition for the treatment of type 2 diabetes. Probiodrug sold its DPP4 franchise to OSI Pharmaceuticals in 2004. Probiodrug’s pioneering scientific approach targeting QC in AD has the potential to bring a breakthrough treatment to this therapeutic area of great unmet need.

MARKET CAPITALIZATION

1.7 bn

In USD as at 12/31/16



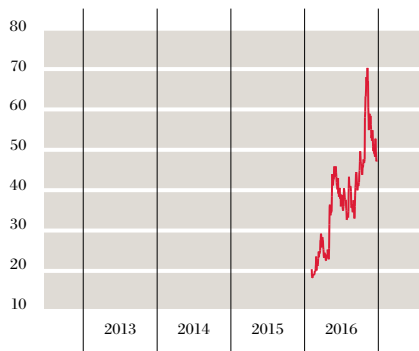
**Prothena Corp.**

Prothena is a biotech company focused on the development of antibody-based immunotherapies. Their lead asset, NEOD001, is currently being investigated in a Phase III clinical trial in AL-amyloidosis, a devastating disease characterized by the accumulation of protein plaques in various organs. NEOD001 is an antibody designed to bind these plaques and remove them from the affected organs. The company’s second asset is in earlier clinical development for the treatment of Parkinson’s disease. The company is a spinout of Elan Corporation and their business consists of a substantial portion of Elan’s former drug discovery business platform.

MARKET CAPITALIZATION

1.3 bn

In USD as at 12/31/16



**AveXis**

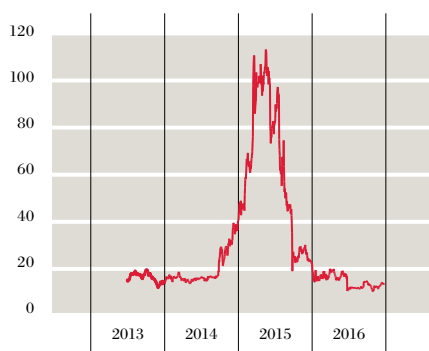
AveXis is a clinical stage company using its gene therapy platform to address serious, unmet diseases. Its gene therapy technology utilizes the adeno-associated virus 9 vector (AAV9) to deliver functional genes to cells in order to produce fully function proteins where they are deficient. AAV9 is an ideal vector as it is non-replicating and does not incorporate its genome into the host DNA, thereby avoiding various potential toxic events. The company’s lead product is AVXS-101, in Phase I (soon to be Phase III) for the treatment of spinal muscular atrophy I (SMA I). SMA is a disease where motor neuron lack a functional, crucial protein called SMN1, leading to severe motor deficiencies, muscle wasting, and also death. AVXS-101 is administered only once, and uses the AAV9 vector to deliver the function SMN1 gene to the motor neurons in SMA patients. In the ongoing Phase I trial, SMA I infants have seen dramatic improvements in their motor scores, which would never be seen in these patients. AveXis will start a Phase III trial in H1 of 2017, and also plans on starting a Phase I trial in SMA II patients in 2017. The company will also leverage its platform to bring additional products into development in the coming quarters.

Source: Bloomberg

MARKET CAPITALIZATION

# 282 mn

In USD as at 12/31/16



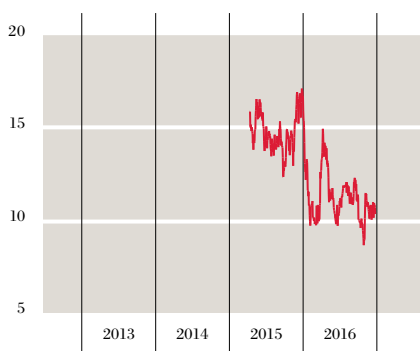
### Esperion Therapeutics

Esperion Therapeutics is a US-based biotech company focused on the development of treatments for cardio-metabolic diseases. ETC-1002 is the main and only clinical asset and has completed multiple clinical trials and has now initiated its complete Phase III program. ETC-1002's main target ATP citrate lyase is located upstream of where statins work and ultimately reduces LDL cholesterol by upregulation of the LDL receptor and to a lesser degree has an effect on cholesterol synthesis, fatty acid oxidation and synthesis. ETC-1002 has shown LDL cholesterol reduction levels of up to 30% as monotherapy and up to 50% in combination with Ezetimibe. In contrast to the recently approved subcutaneously administered PCSK9 antibodies, ETC-1002 poses a convenient and more economic once-daily oral solution. To date ETC-1002 has not shown any significant safety signals such as statin-typical myalgia. Primary markets for ETC-1002 will be the statin-intolerant population (with up to 10% of statin users) as well as additional treatment for patients whose LDL cholesterol levels are not sufficiently controlled with a statin. The key question is whether interim data in form of LDL reduction will be sufficient for approval or whether an approval decision will have to wait until the final trial data has been collected in 2022 due to the increasing number of treatment options.

MARKET CAPITALIZATION

# 173 mn

In USD as at 12/31/16



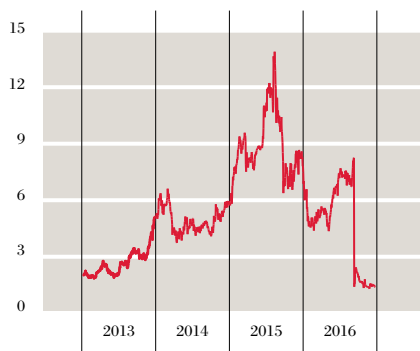
### Cidara Therapeutics

Cidara is a biotechnology company focused on treating severe and resistant microbial infections. Its lead product, CD101 IV for candidemia, is from the echinocandin class of antifungals but may be able to be dosed as a once-weekly infusion, versus daily for the current echinocandins. This would provide the option of treating patients with the best antifungal on an outpatient basis, thus offering significant advantages to both patients and the healthcare system. Initial Phase I data have demonstrated a strong safety profile and confirmed the once-weekly dosing potential. CD101 is also the only echinocandin to be formulated as a topical treatment and will be developed for recurrent vulvovaginal candidiasis. The company has initiated Phase II studies in both indications in 2016, with the topical data expected in Q1 of 2017, and the invasive candidiasis data by year end. Finally, Cidara is the only company developing an immunotherapy platform for serious infections.

MARKET CAPITALIZATION

# 342 mn

In USD as at 12/31/16



### Novavax

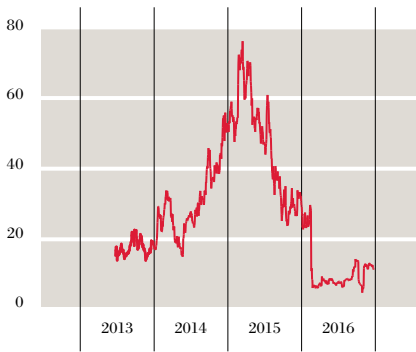
Novavax is a company specializing in the development of novel vaccines. The most advanced program is a vaccine to prevent RSV infections in infants and older adults. RSV is a respiratory tract infection which may be fatal in infants, older adults, and people with compromised immune systems. In a Phase II study in older adults, Novavax showed that its vaccine results in 44% fewer symptomatic RSV infections and a more than 60% reduction in severe RSV infections. However, in 2016, the company announced that the Phase III study in the elderly failed due to a much lower event rate than expected. In its Phase II study in pregnant women, Novavax showed that the antibodies are transferred effectively from the mothers to their infants. A corresponding Phase III study has been initiated in pregnant women with data expected in H2 of 2017. Novavax also has a seasonal influenza vaccine, an Ebola vaccine, and a pandemic influenza vaccine in its pipeline.

\* Estimates; Source: Bloomberg

MARKET CAPITALIZATION

374 mn

In USD as at 12/31/16



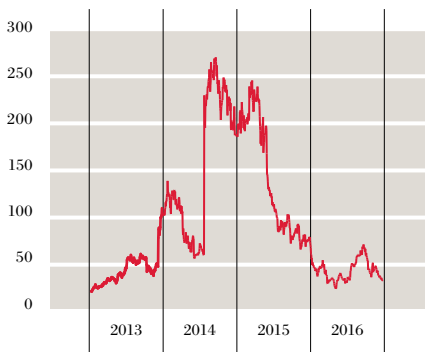
**PTC Therapeutics**

PTC Therapeutics is a biopharmaceutical company specializing in the development of therapies for rare genetic disorders. The company focuses on using small molecule compounds to intervene in the protein synthesis defect. Translarna (Ataluren) is approved in Europe for the treatment of Duchenne muscular dystrophy (DMD). DMD is a rare X-chromosome-linked disease that is usually restricted to males. Boys with the disease develop progressive loss of muscle mass and in most cases become wheelchair-bound by the time they reach their teens. The greatest challenge in DMD lies in measuring response to treatment. Six-minute walk distance is commonly used as a proxy measure of muscle strength. Translarna failed to demonstrate a statistically significant improvement in this endpoint in a Phase III study. In 2016 the FDA rejected the company's application, and PTC is in the process of appealing this action, which should continue through 2017. Additionally, the drug is in a Phase III cystic fibrosis study, with data expected in Q1 of 2017.

MARKET CAPITALIZATION

1.1 bn

In USD as at 12/31/16



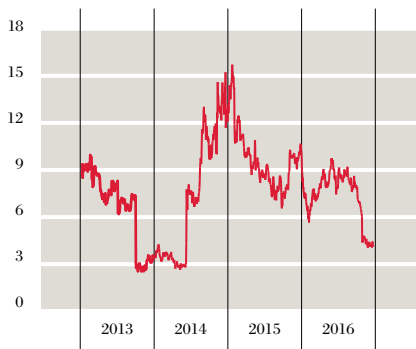
**Puma Biotechnology**

Puma is focused on acquiring, developing, and commercializing anti-cancer drugs worldwide. The lead compound is Neratinib, a small molecule HER2 receptor antagonist for breast cancer licensed from Pfizer. There are multiple opportunities for Neratinib. Given data that suggest improved efficacy of Neratinib versus Glaxo's approved Tykerb, the company began a Phase III trial that compares Neratinib to Tykerb in patients with Herceptin-refractory HER2+ breast cancer; results are expected in 2017. Puma announced results from a Phase III trial with Neratinib in the adjuvant setting that we believe could generate about USD 350 mn in sales if the drug is approved in 2017. Finally, data from a Phase II trial in the neoadjuvant setting showed that treatment with Neratinib resulted in a higher response rate than standard Herceptin therapy, and we model approval for this indication in 2019.

MARKET CAPITALIZATION

564 mn

In USD as at 12/31/16



**Achillion Pharmaceuticals**

Achillion is developing drugs for hepatitis C. The lead compound is ACH-3102, a drug from the NS5a class of inhibitors for which Phase II data have been compelling. In May 2015, Johnson & Johnson (JNJ) licensed all of Achillion's hepatitis C assets for a potential value of USD 1.1 bn and an attractive royalty on sales. We believe the deal is favorable as it gives the company a higher probability of reaching the market with a competitive regimen. Indeed, ACH-3102 is being combined with JNJ's marketed protease inhibitor Olysio and early-stage nucleoside inhibitor in a Phase II trial and data reported in 2016 were promising. While it is extremely difficult to predict whether this regimen can overcome the high hurdles set by currently available regimens, successful development could give Achillion a place in the USD 20+ bn hepatitis C market.

Source: Bloomberg







# Consolidated financial statements

## Consolidated balance sheet as at December 31

(in CHF 1 000)

|   | Notes | 2016             | 2015             |
|---|-------|------------------|------------------|
| <b>Current assets</b>                             |       |                  |                  |
| Cash and cash equivalents                         |       | 10 229           | 21 059           |
| Receivables from brokers                          |       | 10 151           | 3 978            |
| Securities at fair value through profit or loss   | 4     | 3 205 856        | 4 118 629        |
| Other assets                                      |       | 1                | 1                |
|   |       | <b>3 226 237</b> | <b>4 143 667</b> |
| <b>Total assets</b>                               |       | <b>3 226 237</b> | <b>4 143 667</b> |
| <b>Current liabilities</b>                        |       |                  |                  |
| Short-term borrowings from banks                  | 5     | 205 000          | 160 000          |
| Payables to brokers                               |       | 14 593           | 1 198            |
| Other short-term liabilities                      | 6     | 3 483            | 4 068            |
| Tax liabilities                                   |       | 142              | 243              |
|   |       | <b>223 218</b>   | <b>165 509</b>   |
| <b>Total liabilities</b>                          |       | <b>223 218</b>   | <b>165 509</b>   |
| <b>Shareholders' equity</b>                       |       |                  |                  |
| Share capital                                     | 7     | 11 080           | 11 850           |
| Treasury shares                                   | 7     | (859)            | (119 332)        |
| Retained earnings                                 | 7     | 2 992 798        | 4 085 640        |
|   |       | <b>3 003 019</b> | <b>3 978 158</b> |
| <b>Total liabilities and shareholders' equity</b> |       | <b>3 226 237</b> | <b>4 143 667</b> |
| Net asset value per share in CHF <sup>1)</sup>    |       | 54.20            | 71.45            |

<sup>1)</sup> The five-for-one share split as at March 29, 2016, is accounted for in the previous year value.

The notes on pages 44 to 55 are an integral part of these consolidated financial statements.

The consolidated financial statements were approved by the Board of Directors of BB Biotech AG on February 14, 2017.

## Consolidated statement of comprehensive income for the year ended December 31

(in CHF 1 000)

|  | Notes     | 2016             | 2015            |
|--|-----------|------------------|-----------------|
| <b>Operating income</b>                        |           |                  |                 |
| Gains from marketable securities               | 4         | –                | 690 211         |
| Interest income                                |           | –                | 1               |
| Dividend income                                |           | 8 679            | 6 647           |
| Foreign exchange gains net                     |           | 578              | –               |
| Other income                                   |           | 239              | 1 089           |
|  |           | <b>9 496</b>     | <b>697 948</b>  |
| <b>Operating expenses</b>                      |           |                  |                 |
| Losses from marketable securities              | 4         | (773 707)        | –               |
| Finance expenses                               |           | (1 085)          | (179)           |
| Foreign exchange losses net                    |           | –                | (1 334)         |
| Administrative expenses                        | 8         | (32 299)         | (38 299)        |
| Other expenses                                 | 9         | (4 399)          | (5 240)         |
|  |           | <b>(811 490)</b> | <b>(45 052)</b> |
| <b>Operating income before tax</b>             | <b>12</b> | <b>(801 994)</b> | <b>652 896</b>  |
| Income taxes                                   | 10        | (71)             | (80)            |
| <b>Net income for the year</b>                 |           | <b>(802 065)</b> | <b>652 816</b>  |
| <b>Total comprehensive income for the year</b> |           | <b>(802 065)</b> | <b>652 816</b>  |
| Income per share in CHF <sup>1)</sup>          | 11        | (14.51)          | 11.69           |
| Diluted income per share in CHF <sup>1)</sup>  | 11        | (14.51)          | 11.68           |

<sup>1)</sup> The five-for-one share split as at March 29, 2016, is accounted for in the previous year value.

The notes on pages 44 to 55 are an integral part of these consolidated financial statements.



## Consolidated statement of changes in equity for the year ended December 31

(in CHF 1 000)

|  | Share capital | Treasury shares  | Retained earnings | Total            |
|--|---------------|------------------|-------------------|------------------|
| <b>Balances at January 1, 2014</b>                   | <b>11 850</b> | <b>(57 582)</b>  | <b>2 164 604</b>  | <b>2 118 872</b> |
| Cash distribution                                    | –             | –                | (79 429)          | (79 429)         |
| Trade with treasury shares (incl. change in balance) | –             | (20 088)         | 2 938             | (17 150)         |
| Share-based remuneration                             | –             | –                | 93                | 93               |
| Total comprehensive income for the year              | –             | –                | 1 470 139         | 1 470 139        |
| <b>Balances at December 31, 2014</b>                 | <b>11 850</b> | <b>(77 670)</b>  | <b>3 558 345</b>  | <b>3 492 525</b> |
| <b>Balances at January 1, 2015</b>                   | <b>11 850</b> | <b>(77 670)</b>  | <b>3 558 345</b>  | <b>3 492 525</b> |
| Cash distribution                                    | –             | –                | (130 079)         | (130 079)        |
| Trade with treasury shares (incl. change in balance) | –             | (41 662)         | 4 440             | (37 222)         |
| Share-based remuneration                             | –             | –                | 118               | 118              |
| Total comprehensive income for the year              | –             | –                | 652 816           | 652 816          |
| <b>Balances at December 31, 2015</b>                 | <b>11 850</b> | <b>(119 332)</b> | <b>4 085 640</b>  | <b>3 978 158</b> |
| <b>Balances at January 1, 2016</b>                   | <b>11 850</b> | <b>(119 332)</b> | <b>4 085 640</b>  | <b>3 978 158</b> |
| Cash distribution/dividend                           | –             | –                | (160 489)         | (160 489)        |
| Capital reduction                                    | (770)         | 133 294          | (132 524)         | –                |
| Trade with treasury shares (incl. change in balance) | –             | (14 821)         | 2 118             | (12 703)         |
| Share-based remuneration                             | –             | –                | 118               | 118              |
| Total comprehensive income for the year              | –             | –                | (802 065)         | (802 065)        |
| <b>Balances at December 31, 2016</b>                 | <b>11 080</b> | <b>(859)</b>     | <b>2 992 798</b>  | <b>3 003 019</b> |

The notes on pages 44 to 55 are an integral part of these consolidated financial statements.

## Consolidated statement of cash flow for the year ended December 31

(in CHF 1 000)

|   | Notes | 2016             | 2015            |
|---|-------|------------------|-----------------|
| <b>Cash flows from operating activities</b>                   |       |                  |                 |
| Proceeds from sales of securities                             | 4     | 511 015          | 1 013 389       |
| Purchase of securities  | 4     | (367 199)        | (925 821)       |
| Dividend receipts   |       | 8 679            | 6 647           |
| Interest receipts   |       | –                | 1               |
| Payments for services   |       | (36 923)         | (41 605)        |
| Income taxes paid   |       | (171)            | (36)            |
| <b>Total cash flows from operating activities</b>             |       | <b>115 401</b>   | <b>52 575</b>   |
| <b>Cash flows from financing activities</b>                   |       |                  |                 |
| Cash distribution/dividend                                    |       | (160 489)        | (130 079)       |
| Proceeds from sales of treasury shares                        | 7     | 43 933           | 133 375         |
| Purchase of treasury shares                                   | 7     | (54 168)         | (172 267)       |
| Borrowing of bank loans                                       | 5     | 45 000           | 130 000         |
| Interest payments   |       | (1 085)          | (179)           |
| <b>Total cash flows from financing activities</b>             |       | <b>(126 809)</b> | <b>(39 150)</b> |
| Foreign exchange difference                                   |       | 578              | (1 334)         |
| <b>Change in cash and cash equivalents</b>                    |       | <b>(10 830)</b>  | <b>12 091</b>   |
| <b>Cash and cash equivalents at the beginning of the year</b> |       | <b>21 059</b>    | <b>8 968</b>    |
| <b>Cash and cash equivalents at the end of the year</b>       |       | <b>10 229</b>    | <b>21 059</b>   |
| Cash and cash equivalents                                     |       | 10 229           | 21 059          |
| <b>Cash and cash equivalents at the end of the year</b>       |       | <b>10 229</b>    | <b>21 059</b>   |

The notes on pages 44 to 55 are an integral part of these consolidated financial statements.

## 1. The Company and its principal activity

BB Biotech AG (the Company) is listed on the SIX Swiss Exchange, in the «Prime Standard Segment» of the German Exchange as well as in the «Star Segment» of the Italian Exchange and has its registered office in Schaffhausen, Schwertstrasse 6. Its principal activity is to invest in companies active in the biotechnology industry for the purpose of capital appreciation. The investments are held through its wholly owned subsidiaries.

| Company                      | Capital<br>in CHF 1 000 | Capital and<br>voting interest<br>in % |
|------------------------------|-------------------------|--|
| Biotech Focus N.V., Curaçao  | 11                      | 100                                    |
| Biotech Growth N.V., Curaçao | 11                      | 100                                    |
| Biotech Invest N.V., Curaçao | 11                      | 100                                    |
| Biotech Target N.V., Curaçao | 11                      | 100                                    |

## 2. Accounting policies

### General

The consolidated financial statements of the Company and its subsidiary companies (the Group) have been prepared in accordance with International Financial Reporting Standards (IFRS), as well as the provisions of the rules of the SIX Swiss Exchange for Investment Companies. The consolidation is prepared from the financial statements of the Group companies using uniform accounting principles. With the exception of financial assets and liabilities (incl. derivative instruments), which are held at fair value through profit or loss, the financial statements are prepared under the historical cost convention. This requires management to make assumptions and estimates that have an impact on the balance sheet values and items of the income statement in the current financial year. In certain circumstances, the actual values may differ from these estimates.

The following amendments to published standards, valid since January 1, 2016, have been applied in these annual consolidated financial statements:

- IFRS 10 (amended, effective January 1, 2016) – Consolidated financial statements (includes IAS 28 and IFRS 12)
- IFRS 11 (amended, effective January 1, 2016) – Accounting for acquisitions of interests in joint operations
- IAS 1 (amended, effective January 1, 2016) – Presentation of financial statements
- IAS 27 (amended, effective January 1, 2016) – Separate financial statements

The revised standards have no material impact on the Group's accounting policies and overall results and financial position. The final assessment of the amendment to IFRS 10 concluded that the subsidiaries should still be consolidated, contrary to the initial analysis.

The following new standards were issued, but will only be applicable for the Group prospectively and were not early adopted in these annual consolidated financial statements:

- IFRS 7 (effective January 1, 2018) – Financial instruments – Disclosure – Additional disclosures on transition from IAS 39 to IFRS 9
- IFRS 9 (effective January 1, 2018) – Financial instruments
- IFRS 15 (effective January 1, 2018) – Revenue from contracts with customers
- IFRS 16 (effective January 1, 2019) – Leases

The Group assessed the potential impact of the above mentioned new standards. Based on the analysis the Group concludes that these new standards have no material impact on the Group's accounting policies and overall results and financial position.

### Basis of consolidation

The consolidated financial statements include the Company and the subsidiary companies which are controlled by it. Control is the ability to influence the financial and operating activities of an entity so as to benefit from its activities. Subsidiaries are fully consolidated from the date on which control is transferred to the Company and are deconsolidated from the date that control ceases. The consolidation is performed using the acquisition method. All intercompany transactions and balances with companies included in the consolidation are eliminated. All Group companies have a December 31 year-end.

### Foreign currency translation

Based on the economic environment (primary listing, investors, costs and performance measurement) in which the Company and its subsidiaries operate, the consolidated financial statements of the Group are presented in Swiss francs, which is the Company's and its subsidiaries functional currency. Transactions in foreign currencies are converted at exchange rates as at transaction dates. Assets and liabilities in foreign currencies at year-end are translated at rates of exchange prevailing as at the balance sheet date. Exchange differences are reflected in the statement of income. Translation differences on marketable securities held at fair value through profit or loss are reported as part of the net gains/(losses) from marketable securities.

The following exchange rates have been used for the preparation of these consolidated financial statements:

| Currency | 12/31/2016 | 12/31/2015 |
|----------|------------|------------|
| USD      | 1.02000    | 1.00200    |
| EUR      | 1.06725    | 1.08774    |
| DKK      | 14.40350   | 14.58210   |
| SEK      | 11.19630   | 11.86850   |

### Cash and cash equivalents

Cash and cash equivalents comprise current accounts and call money at banks which have a maturity of three months or less. These are stated at the notional amount as this is a reasonable approximation of fair value due to the short-term maturity.

### Receivables/payables against brokers

Receivables/payables against brokers result from security transactions and do not bear any interest. These are stated at amortized cost which is a reasonable approximation of fair value due to the short-term maturity.

### Financial assets

The Group classifies its financial assets in the following categories: at fair value through profit or loss as well as loans and receivables. Financial assets at fair value through profit or loss comprise marketable securities which are classified as current assets.

Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. They are included in current assets, except when they have maturities of greater than twelve months after the balance sheet date they are classified as non-current assets. The balance sheet items cash and cash equivalents, receivables from brokers and other assets comprise this category.

#### *Marketable securities*

Marketable securities consist of securities, designated at fair value through profit or loss, and derivatives. Initially, securities and derivatives are valued at fair value and are subsequently remeasured at market values based on stock exchange prices or generally accepted valuation models that are based on market conditions existing at each balance sheet date, such as Black-Scholes, earnings multiple and discounted cash flow model. Purchases and sales of marketable securities are accounted for at trade date. Realized gains and losses on security trading are recognized in the statement of income as net realized gains/losses from marketable securities at the day of the transaction. Changes in fair value of securities are recognized as net unrealized gains/losses from marketable securities in the statement of income in the period in which they arise. Marketable securities are derecognized when the rights to receive cash flows from marketable securities have expired or where the Group has transferred substantially all risks and rewards of ownership.

### Income taxes

Current income taxes are calculated on the basis of the applicable tax laws in individual countries and recognized as an expense in the period in which the related profits are made.

Assets or liabilities related to current income taxes are reported in the balance sheet in the items «Current tax assets» or «Current tax liabilities». Tax effects arising from temporary differences between the carrying amounts of assets and liabilities in the Group's balance sheet and their corresponding tax values are recognized, respectively, as «Deferred tax assets» and «Deferred tax liabilities». Deferred tax assets arising from temporary differences and from loss carry-forwards eligible for offset are capitalized if it is likely that sufficient taxable profits will be available against which those temporary differences or loss carry-forwards can be offset. Deferred tax assets and deferred tax liabilities are calculated at the tax rates expected to apply in the period in which the tax assets will be realized, or the tax liabilities settled.

### **Earnings per share**

Basic earnings per share are calculated by dividing the net profit/loss attributable to shareholders by the weighted average number of registered shares in issue during the year, less treasury shares. For the diluted earnings per share, the weighted average number of registered shares in issue and the net profit is adjusted to assume conversion of all dilution potential registered shares. The potential registered shares include all registered shares, which will be issued by exercising warrants or options.

### **Short-term borrowings from banks**

Short-term borrowings are recognized initially at fair value, net of transaction costs incurred. Borrowings are subsequently stated at amortized cost; any difference between the proceeds (net of transaction costs) and the redemption value is recognized in the income statement over the period of the borrowings using the effective interest method. Borrowings are classified as current liabilities unless the Group has an unconditional right to defer settlement of the liability for at least twelve months after the balance sheet date.

### **Treasury shares**

Treasury shares are deducted from shareholders' equity. All profits and losses arising from trading in treasury shares are directly credited/debited to retained earnings. Treasury shares may be acquired and held by the Company or by other members of the consolidated Group.

### **Net asset value per share**

The net asset value per share is calculated by dividing the shareholders' equity by the number of shares outstanding less treasury shares held.

### **Dividend income**

Dividends on marketable securities are recognized in the income statement when the Group's right to receive payment is established.

### **Equity compensation plans**

The variable compensation of the Board of Directors is based on an equity compensation plan. The granted amounts are calculated by using the average fair value in December of the relevant business year and recorded as an expense over the vesting period. The expense is charged to the appropriate income heading within the operating result. As the plan is an equity-settled share-based payment transaction, an increase in equity is recorded for this expense.

### **Pension funds**

BB Biotech AG maintains for its employee a defined benefit plan. Due to the immateriality of any potential pension liability or potential pension asset, no disclosures according to IAS 19 are made within these consolidated financial statements.

### **Commitments, contingencies and other off-balance sheet transactions**

The operations of the Group are affected by legislative, fiscal and regulatory developments for which provisions are made where a legal or constructive obligation has been incurred which will probably lead to an outflow of resources that can be reasonably estimated.

### **Critical accounting estimates and judgments**

The fair value of financial instruments that are not traded in an active market is determined by using valuation techniques. The Group makes estimates and assumptions that are mainly based on market conditions to value these financial instruments. Since these financial instruments are not traded in an active market, inherent difficulties exist to value these financial instruments. These difficulties cannot be eliminated. The difference between the proceeds from sale of these financial instruments and the carrying amount may be material.

## **3. Financial risk management**

Within the framework of the law, articles of incorporation and regulations, the asset manager carries out currency and marketable security forward transactions, buys, sells and makes use of options as well as fulfills all necessary obligations that result from these businesses.

### **Credit risk**

The Group is exposed to credit risk, which is the risk that a counterparty will be unable to pay amount in full when due. Impairment provisions are provided for losses that have been incurred by the balance sheet date, if any. The Group maintains business relations only with counterparties with an acceptable credit rating. All transactions in listed securities are settled/paid for upon delivery using approved brokers. The risk of default is considered minimal, as delivery of securities sold is only made once the broker has received payment. Payment is made on a purchase once the securities have been received by the broker. The trade will fail if either party fails to meet its obligation. Other assets consist of prepayments. The Group's credit positions, if any, are monitored on a daily basis by the asset manager and are reviewed on a regular basis by the Board of Directors.



## Market risks

### *Risk associated with changing market prices*

Due to its business activity and the resulting high portion of marketable securities in relation to total assets, the Group is exposed to market price risk arising from uncertainties and fluctuations on the financial and foreign exchange markets.

The Group participates partially, but to a substantial extent, in the capital of its investments. In the case of sales of large parts of these investments, it may be able to influence the market price. The Group's marketable securities positions are monitored on a daily basis by the asset manager and are reviewed on a regular basis by the Board of Directors.

The annual volatility of registered shares BB Biotech AG (reference volatility for the marketable securities) for 2016 is 34.91% (2015: 38.33%). At December 31, 2016, had the value of listed securities increased or decreased by 34.91% (2015: 38.33%) with all other variables held constant, the increase or decrease respectively in net income/loss as well as shareholders' equity would amount to CHF 1 117.5 mn (2015: CHF 1 575.3 mn).

At December 31, 2016, and 2015 the Company holds no unlisted shares.

### *Interest risk*

Interest rates on liquid funds are based on market rates. The funds are due on demand.

Short-term borrowings from banks are on current and short-term loan accounts with interest, based at market rates. Due to the high level of own funds, the effect of interest payable on the statement of income is insignificant. The majority of the Group's marketable securities are non-interest bearing; as a result, the Group is not subject to significant amounts of risk due to fluctuations in the prevailing levels of market interest rates.

The Group's interest sensitivity is monitored on a daily basis by the asset manager and reviewed on a regular basis by the Board of Directors.

## Currency risk

The Company and its subsidiaries hold assets denominated in currencies other than the Swiss franc, the functional currency. They are therefore exposed to currency risk, as the value of the securities denominated in other currencies will fluctuate due to changes in exchange rates. Depending on the market situation the Group uses foreign currency options or forward contracts to reduce the currency risk.

The following table summarizes the Group's exposure to currency risks:

| <b>2016</b> | <b>Net exposure<br/>12/31/<br/>(in CHF 1 000)</b> | <b>Annual<br/>volatility<br/>(in %)</b> | <b>Potential<br/>impact<br/>(in CHF 1 000)<sup>1)</sup></b> |
|-------------|---|---|---|
| USD         | 2 752 155   | 7.93                                    | 218 246   |
| DKK         | 113 218   | 4.57                                    | 5 174   |
| SEK         | 53 156  | 7.43                                    | 3 949   |
| EUR         | 20 246  | 4.45                                    | 901   |
| <b>2015</b> |   |   |   |
| USD         | 3 575 935   | 22.97                                   | 821 285   |
| DKK         | 130 854   | 22.61                                   | 29 586  |
| SEK         | 86 415  | 22.52                                   | 19 461  |
| EUR         | 30 619  | 22.56                                   | 6 908   |

<sup>1)</sup> Potential impact on total comprehensive income as well as shareholders' equity with all other variables held constant

The Group's currency position is monitored on a daily basis by the asset manager and is reviewed on a regular basis by the Board of Directors.

### Liquidity risk

The Group invests the majority of its assets in investments that are traded in an active market and can be readily disposed of. The Group's treasury shares, with the exception of shares purchased under a share buy-back program, are considered readily realizable as they are listed on three stock exchanges. The Group could invest a minor part of its portfolio in marketable securities, which are not traded on a stock exchange and may be illiquid. As a result, the Group may not be able to liquidate quickly its investments in these instruments.

The tables below analyze the Group's financial liabilities into relevant maturity groupings based on the period between the balance sheet date and the contractual maturity date (in CHF 1 000):

| At December 31, 2016             | Less than<br>1 month | 1 – 3 months | More than 3 months/<br>no stated maturity |
|----------------------------------|----------------------|--------------|---|
| Short-term borrowings from banks | 205 000              | –            | –   |
| Payables to brokers              | 14 593               | –            | –   |
| Other short-term liabilities     | 3 146                | 337          | –   |
| <b>Total liabilities</b>         | <b>222 739</b>       | <b>337</b>   | <b>–</b>                                  |

### At December 31, 2015

|                                  |                |            |          |
|----------------------------------|----------------|------------|----------|
| Short-term borrowings from banks | 160 000        | –          | –        |
| Payables to brokers              | 1 198          | –          | –        |
| Other short-term liabilities     | 3 623          | 445        | –        |
| <b>Total liabilities</b>         | <b>164 821</b> | <b>445</b> | <b>–</b> |

The Group's liquidity position is monitored on a daily basis by the asset manager and is reviewed on a regular basis by the Board of Directors.

### Diversification

The investment portfolio usually consists of 20 to 35 investments. This includes five to eight large core positions, which together will account for up to two-thirds of the portfolio. The maximum share of companies without a stock market listing is 10%.

As per December 31, 2016, the Group held six core investments, representing 55% (2015: six core investments, 51%) of the portfolio. The portfolio is – in line with the strategy – concentrated on a limited number of investments. Risk diversification is therefore limited.

### Fair values

The following table presents the Group's assets that are measured at fair value at December 31 (in CHF 1 000):

| 2016  | Level 1          | Level 2      | Level 3  | Total            |
|---|------------------|--------------|----------|------------------|
| <b>Assets</b>                                   |                  |              |          |                  |
| Securities at fair value through profit or loss |                  |              |          |                  |
| – Listed shares                                 | 3 201 135        | –            | –        | 3 201 135        |
| – Derivative instruments                        | –                | 4 721        | –        | 4 721            |
| <b>Total assets</b>                             | <b>3 201 135</b> | <b>4 721</b> | <b>–</b> | <b>3 205 856</b> |
| <b>2015</b>                                     |                  |              |          |                  |
| <b>Assets</b>                                   |                  |              |          |                  |
| Securities at fair value through profit or loss |                  |              |          |                  |
| – Listed shares                                 | 4 109 821        | –            | –        | 4 109 821        |
| – Derivative instruments                        | –                | 8 808        | –        | 8 808            |
| <b>Total assets</b>                             | <b>4 109 821</b> | <b>8 808</b> | <b>–</b> | <b>4 118 629</b> |

The fair value of financial instruments traded in active markets is based on quoted market prices at the balance sheet date. A market is regarded as active if quoted prices are readily and regularly available and those prices represent actual and regularly occurring market transactions on an arm's length basis. The quoted market price used for financial assets held by the Group is the closing price. These instruments are included in level 1.

The fair value of financial instruments that are not traded in an active market is determined by using valuation techniques. These valuation techniques maximize the use of observable market data where it is available. The options are valued on the basis of the Black-Scholes model which is based on market conditions existing at each balance sheet date. These instruments are included in level 2.

If one or more of the significant inputs is not based on observable market data, the instrument is included in level 3. The valuation of level 3 instruments is regularly reviewed. As soon as new or adjusted parameters are available the valuation models (earnings multiple model) of unlisted shares are adjusted accordingly. The valuations are reviewed at least once a year. As of December 31, 2016 and 2015, no valuation is necessary as there are no more level 3 investments.

For assets and liabilities carried at amortised cost, their carrying values are a reasonable approximation of fair value.

#### 4. Financial assets

##### Marketable securities

The changes in value of securities at fair value through profit or loss by investment category are as follows (in CHF 1 000):

|  | Listed shares    | Derivative instruments | Total            |
|--|------------------|------------------------|------------------|
| <b>Opening balance as at 01/01/2015 at fair values</b> | <b>3 519 226</b> | <b>4 598</b>           | <b>3 523 824</b> |
| Purchases  | 920 289          | –                      | 920 289          |
| Sales  | (1 015 648)      | (48)                   | (1 015 696)      |
| Realized gains   | 331 307          | 14                     | 331 321          |
| Realized losses  | (47 062)         | –                      | (47 062)         |
| Unrealized gains                                       | 667 971          | 4 244                  | 672 215          |
| Unrealized losses                                      | (266 263)        | –                      | (266 263)        |
| Net gains/(losses) from securities                     | 685 953          | 4 258                  | 690 211          |
| <b>Closing balance as at 12/31/2015 at fair values</b> | <b>4 109 821</b> | <b>8 808</b>           | <b>4 118 629</b> |
| <b>Opening balance as at 01/01/2016 at fair values</b> | <b>4 109 821</b> | <b>8 808</b>           | <b>4 118 629</b> |
| Purchases  | 379 793          | –                      | 379 793          |
| Sales  | (518 859)        | –                      | (518 859)        |
| Realized gains   | 119 314          | –                      | 119 314          |
| Realized losses  | (116 649)        | –                      | (116 649)        |
| Unrealized gains                                       | 184 048          | –                      | 184 048          |
| Unrealized losses                                      | (956 333)        | (4 087)                | (960 420)        |
| Net gains/(losses) from securities                     | (769 620)        | (4 087)                | (773 707)        |
| <b>Closing balance as at 12/31/2016 at fair values</b> | <b>3 201 135</b> | <b>4 721</b>           | <b>3 205 856</b> |

Marketable securities comprise the following:

| Company  | Number<br>12/31/2015 | Change      | Number<br>12/31/2016 | Market price in<br>original currency<br>12/31/2016 | Valuation<br>CHF mn<br>12/31/2016 | Valuation<br>CHF mn<br>12/31/2015 |
|--|----------------------|-------------|----------------------|--|-----------------------------------|-----------------------------------|
| Celgene  | 3 609 298            | (150 000)   | 3 459 298            | USD 115.75   | 408.4                             | 433.1                             |
| Incyte   | 3 750 406            | 129 416     | 3 879 822            | USD 100.27   | 396.8                             | 407.5                             |
| Ionis Pharmaceuticals  | 6 529 838            | 383 334     | 6 913 172            | USD 47.83  | 337.3                             | 405.2                             |
| Actelion   | 2 200 673            | (1 019 237) | 1 181 436            | CHF 220.50   | 260.5                             | 307.2                             |
| Gilead   | 2 774 596            | –           | 2 774 596            | USD 71.61  | 202.7                             | 281.3                             |
| Radius Health  | 4 272 140            | 88 259      | 4 360 399            | USD 38.03  | 169.1                             | 263.4                             |
| Alexion Pharmaceuticals                                      | 1 034 428            | 195 000     | 1 229 428            | USD 122.35   | 153.4                             | 197.7                             |
| Tesaro   | 1 229 582            | (255 000)   | 974 582              | USD 134.48   | 133.7                             | 64.5                              |
| Neurocrine Biosciences                                       | 3 121 552            | 30 000      | 3 151 552            | USD 38.70  | 124.4                             | 176.9                             |
| Agios Pharmaceuticals  | 2 159 921            | 649 607     | 2 809 528            | USD 41.73  | 119.6                             | 140.5                             |
| Novo Nordisk   | 2 243 770            | 842 082     | 3 085 852            | DKK 254.70   | 113.2                             | 130.8                             |
| Vertex Pharmaceuticals                                       | 1 365 445            | 50 000      | 1 415 445            | USD 73.67  | 106.4                             | 172.2                             |
| Regeneron Pharmaceuticals                                    | 205 000              | 40 000      | 245 000              | USD 367.09   | 91.7                              | 111.5                             |
| Halozyne Therapeutics  | 7 029 832            | 570 000     | 7 599 832            | USD 9.88   | 76.6                              | 122.1                             |
| Swedish Orphan Biovitrum                                     | 5 409 334            | (960 000)   | 4 449 334            | SEK 106.70   | 53.2                              | 86.4                              |
| Sage Therapeutics  | 708 663              | 313 776     | 1 022 439            | USD 51.06  | 53.2                              | 41.4                              |
| Alnylam Pharmaceuticals                                      | 1 132 499            | 58 839      | 1 191 338            | USD 37.44  | 45.5                              | 106.8                             |
| Myovant Sciences   | –                    | 3 192 835   | 3 192 835            | USD 12.44  | 40.5                              | –                                 |
| Macrogenics  | –                    | 1 920 000   | 1 920 000            | USD 20.44  | 40.0                              | –                                 |
| Kite Pharma  | 750 000              | 50 000      | 800 000              | USD 44.84  | 36.6                              | 46.3                              |
| Juno Therapeutics  | 1 305 000            | 565 000     | 1 870 000            | USD 18.85  | 36.0                              | 57.5                              |
| Alder Biopharmaceuticals                                     | 1 510 150            | 175 000     | 1 685 150            | USD 20.80  | 35.8                              | 50.0                              |
| Intercept Pharmaceuticals                                    | 255 719              | –           | 255 719              | USD 108.65   | 28.3                              | 38.3                              |
| Intra-Cellular Therapies                                     | –                    | 1 575 000   | 1 575 000            | USD 15.09  | 24.2                              | –                                 |
| Probiobrug   | 1 050 784            | –           | 1 050 784            | EUR 18.03  | 20.2                              | 28.3                              |
| Prothena Corp.   | 320 000              | 30 000      | 350 000              | USD 49.19  | 17.6                              | 21.8                              |
| AveXis   | –                    | 352 800     | 352 800              | USD 47.73  | 17.2                              | –                                 |
| Esperion Therapeutics  | 908 542              | 400 000     | 1 308 542            | USD 12.52  | 16.7                              | 20.3                              |
| Cidara Therapeutics  | 466 679              | 577 145     | 1 043 824            | USD 10.40  | 11.1                              | 8.0                               |
| Novavax  | 8 330 000            | –           | 8 330 000            | USD 1.26   | 10.7                              | 70.0                              |
| PTC Therapeutics   | 1 302 912            | (620 000)   | 682 912              | USD 10.91  | 7.6                               | 42.3                              |
| Puma Biotechnology   | 431 991              | (190 000)   | 241 991              | USD 30.70  | 7.6                               | 33.9                              |
| Achillion Pharmaceuticals                                    | 1 279 340            | –           | 1 279 340            | USD 4.13   | 5.4                               | 13.8                              |
| Medivation   | 2 581 112            | (2 581 112) | –                    | USD n.a.   | –                                 | 125.0                             |
| Cempra   | 1 991 900            | (1 991 900) | –                    | USD n.a.   | –                                 | 62.1                              |
| Infinity Pharmaceuticals                                     | 2 700 737            | (2 700 737) | –                    | USD n.a.   | –                                 | 21.2                              |
| Clovis Oncology  | 528 188              | (528 188)   | –                    | USD n.a.   | –                                 | 18.5                              |
| Tetraphase Pharmaceuticals                                   | 366 203              | (366 203)   | –                    | USD n.a.   | –                                 | 3.7                               |
| <b>Listed shares</b>   |                      |             |                      |  | <b>3 201.2</b>                    | <b>4 109.8</b>                    |
| <b>Total shares</b>  |                      |             |                      |  | <b>3 201.2</b>                    | <b>4 109.8</b>                    |
| Radius Health, warrants, USD 14, 04/23/2018                  | 107 114              | –           | 107 114              | USD 25.41  | 2.8                               | 5.2                               |
| Radius Health, warrants, USD 14, 02/19/2019                  | 71 409               | –           | 71 409               | USD 26.70  | 1.9                               | 3.6                               |
| Merck & Co Inc contingent value rights – ex Trius/Cubist     | 545 927              | –           | 545 927              | USD 0.00   | –                                 | –                                 |
| <b>Total derivative instruments</b>                          |                      |             |                      |  | <b>4.7</b>                        | <b>8.8</b>                        |
| <b>Total securities at fair value through profit or loss</b> |                      |             |                      |  | <b>3 205.9</b>                    | <b>4 118.6</b>                    |

The marketable securities are deposited with Bank Julius Baer & Co. Ltd., Zurich.

## 5. Short-term borrowings from banks

At December 31, 2016, a CHF 205 mn short-term loan is outstanding, with interest payable at 0.40% p.a. (2015: CHF 160 mn at 0.40% p.a.).

## 6. Other short-term liabilities

(in CHF 1 000)

Other short-term liabilities comprise the following:

|   | 12/31/2016   | 12/31/2015   |
|---|--------------|--------------|
| Payables to the asset manager               | 2 830        | 3 209        |
| Payables to the market maker                | 54           | 145          |
| <b>Total liabilities to related parties</b> | <b>2 884</b> | <b>3 354</b> |
| Other liabilities                           | 599          | 714          |
| <b>Total liabilities to third parties</b>   | <b>599</b>   | <b>714</b>   |
|   | <b>3 483</b> | <b>4 068</b> |

Liabilities to related parties represent unpaid fees, commissions as well as administration costs. Further information on transactions with related parties are disclosed in note 16, «Related party transactions».

## 7. Shareholders' equity

The share capital of the Company consists of 55.4 mn fully paid registered shares (2015: 11.85 mn registered shares) with a par value of CHF 0.20 each (2015: CHF 1). CHF 2.2 mn of the retained earnings (2015: CHF 2.4 mn) are undistributable.

|   | Par value per share in CHF | Nominal value of the share capital in CHF 1 000 | Number of shares  | Treasury shares number | Outstanding shares number |
|---|----------------------------|---|-------------------|------------------------|---------------------------|
| <b>January 1, 2015</b>  | <b>1.00</b>                | <b>11 850</b>                                   | <b>11 850 000</b> | <b>567 208</b>         | <b>11 282 792</b>         |
| Purchases of treasury shares at an average price of CHF 280.79              |                            |   |                   | 613 514                | (613 514)                 |
| Sales of treasury shares at an average price of CHF 287.57                  |                            |   |                   | (469 609)              | 469 609                   |
| <b>December 31, 2015</b>  | <b>1.00</b>                | <b>11 850</b>                                   | <b>11 850 000</b> | <b>711 113</b>         | <b>11 138 887</b>         |
| <b>January 1, 2016</b>  | <b>1.00</b>                | <b>11 850</b>                                   | <b>11 850 000</b> | <b>711 113</b>         | <b>11 138 887</b>         |
| Impact Five-for-one share split as at March 29, 2016                        | (0.80)                     |   | 47 400 000        | 2 844 452              | 44 555 548                |
| Capital reduction   |                            | (770)   | (3 850 000)       | (3 850 000)            | –                         |
| Purchases of treasury shares at an average price of CHF 48.01 <sup>1)</sup> |                            |   |                   | 1 144 844              | (1 144 844)               |
| Sales of treasury shares at an average price of CHF 50.63 <sup>1)</sup>     |                            |   |                   | (834 694)              | 834 694                   |
| <b>December 31, 2016</b>  | <b>0.20</b>                | <b>11 080</b>                                   | <b>55 400 000</b> | <b>15 715</b>          | <b>55 384 285</b>         |

<sup>1)</sup> The five-for-one share split as at March 29, 2016, is accounted for in the value.

At December 31, 2016 and 2015, the Company has neither an authorized nor a conditional capital.

At the General Shareholders' Meeting held March 17, 2016, a five-for-one share split was approved. The split was effective as of March 29, 2016.

At the General Shareholders' Meeting held March 17, 2016, a resolution was approved to reduce the Company's share capital by CHF 770 000 to a level of CHF 11 080 000. On July 12, 2016, 3 850 000 registered shares at a par value of CHF 770 000 were withdrawn from the commercial register, the capital reduction has thus been concluded.

In addition, at the General Shareholders' Meeting held on March 17, 2016, a resolution to commence a share buy-back program was approved whereby up to 5 540 000 shares may be repurchased by the Company. At December 31, 2016, no shares had been repurchased under this share buy-back program.



## 8. Administrative expenses

(in CHF 1 000)

Administrative expenses comprise the following:

|   | 2016          | 2015          |
|---|---------------|---------------|
| <b>Fund manager</b>                         |               |               |
| – Management fees (incl. VAT)               | 31 150        | 37 208        |
| <b>Personnel</b>                            |               |               |
| – Board of Directors remuneration           | 1 028         | 1 028         |
| – Wages and salaries                        | 64            | 14            |
| – Social insurance contributions and duties | 57            | 49            |
|   | <b>32 299</b> | <b>38 299</b> |

The remuneration model of BB Biotech AG is determined by the Board of Directors.

For the years 2016 and 2015, the remuneration paid to the asset manager is based upon a 1.1% all-in fee on the average market capitalization without any additional fixed or performance-based elements of compensation, which is paid on a monthly basis.

In the financial years 2016 and 2015, the compensation of the Board of Directors consists of a fixed remuneration which is paid quarterly in cash. In 2013, the remuneration consisted of a fixed and a variable, share-based component. The fixed component was paid in cash on a quarterly basis. The variable part was calculated from the difference between the historical maximum remuneration of 10% of the compensation to the asset manager and the fixed compensation. The variable compensation was paid in shares of the Company (equity compensation plan). The effective amount of delivered shares depends on various conditions. There is a vesting period of three years after the grant date (shares were granted at the General Shareholders' Meeting during 2014). In addition, the effective remuneration depends on the achievement of defined key performance indicators during the next three business years. The maximum compensation is only paid if in the following three-year period, the absolute performance is higher than 10% p.a. and the relative performance outperforms the Nasdaq Biotech Index and the Swiss Performance Index. If the absolute performance in the three-year period is less than 5% p.a. and neither of the two indices is outperformed, there is no variable remuneration. The cost of the equity compensation plan is charged to the income statement over the three-year vesting period. The estimate of the effective cost is based on historical analysis of the achievement of the key performance indicators. The cost is included in the position «Administrative expenses». In the financial year 2016, CHF 118 was recognized for equity compensation plans (2015: CHF 118).

## 9. Other expenses

(in CHF 1 000)

Other expenses comprise the following:

|                                   | 2016         | 2015         |
|-----------------------------------|--------------|--------------|
| Bank charges                      | 657          | 861          |
| Marketing and financial reporting | 2 038        | 2 207        |
| Legal and consulting expenses     | 139          | 209          |
| Other expenses                    | 1 565        | 1 963        |
|                                   | <b>4 399</b> | <b>5 240</b> |

## 10. Taxes

(in CHF 1 000)

|  | 2016      | 2015      |
|--|-----------|-----------|
| Operating income before tax  | (801 994) | 652 896   |
| Expected tax rate (Federal tax Switzerland)                                  | 7.8%      | 7.8%      |
| Expected income tax  | (62 556)  | 50 926    |
| Difference between effective local tax rates and the expected Swiss tax rate | (62 627)  | 50 846    |
| <b>Total income tax</b>  | <b>71</b> | <b>80</b> |

In the current year, the average effective income tax rate on a consolidated basis was less than 1% (2015: <1%). This low rate is mainly attributable to the fact that a large proportion of operating income was generated by a company situated in Curaçao. As at December 31, 2016, there is no nettable loss carry forward (2015: none).

## 11. Earnings per share

|   | 2016           | 2015         |
|---|----------------|--------------|
| Total comprehensive income for the year (in CHF 1 000)                          | (802 065)      | 652 816      |
| Weighted average number of shares in issue <sup>1)</sup>                        | 55 265 028     | 55 849 725   |
| <b>Income per share in CHF <sup>1)</sup></b>                                    | <b>(14.51)</b> | <b>11.69</b> |
| Profit used to determine diluted earnings per share                             | (802 065)      | 652 816      |
| Dilution potential (share based payments) in shares <sup>1)</sup>               | –              | 18 445       |
| Weighted average number of shares in issue following the dilution <sup>1)</sup> | 55 265 028     | 55 868 170   |
| <b>Diluted income per share in CHF <sup>1)</sup></b>                            | <b>(14.51)</b> | <b>11.68</b> |

<sup>1)</sup> The five-for-one share split as at March 29, 2016, is accounted for in the previous year value.

## 12. Segment information

(in CHF 1 000)

The Group has only one business segment, namely the holding of investments in companies active in the biotechnology industry.

The geographical analysis of the operating income before tax is as follows – all income from financial assets are attributed to a country based on the domiciliation of the issuer of the instrument:

| Operating income before tax | 2016             | 2015           |
|-----------------------------|------------------|----------------|
| Switzerland                 | 129 966          | 56 559         |
| Great Britain               | (3 610)          | –              |
| Ireland                     | (5 942)          | 4 097          |
| Germany                     | (8 069)          | 4 088          |
| Sweden                      | (20 171)         | 34 219         |
| Curaçao                     | (32 146)         | (37 531)       |
| Denmark                     | (50 278)         | 33 652         |
| USA                         | (811 744)        | 557 812        |
|                             | <b>(801 994)</b> | <b>652 896</b> |

## 13. Assets pledged

At December 31, 2016, the securities in the amount of CHF 2 695.9 mn (2015: CHF 3 405.9 mn) are a collateral for a credit line of CHF 400 mn (2015: CHF 350 mn). At December 31, 2016, a CHF 205 mn short-term loan is outstanding (2015: CHF 160 mn).

## 14. Commitments, contingencies and other off-balance sheet transactions

The Group had no commitments or other off-balance sheet transactions open at December 31, 2016 (2015: none).

The operations of the Group are affected by legislative, fiscal and regulatory developments for which provisions are made where deemed necessary. The Board of Directors concludes that as at December 31, 2016, no proceedings existed which could have any material effect on the financial position of the Group (2015: none).

## 15. Financial assets and liabilities

Financial assets and liabilities are allocated to categories as follows (in CHF 1 000):

| At December 31, 2016                    | Loans and<br>receivables  | Assets at<br>fair value through<br>profit or loss | Total            |
|---|---|---|------------------|
| <b>Assets as per balance sheet</b>      |   |   |                  |
| Cash and cash equivalents               | 10 229  | –   | 10 229           |
| Receivables from brokers                | 10 151  | –   | 10 151           |
| Marketable securities                   | –   | 3 205 856   | 3 205 856        |
| Other assets                            | 1   | –   | 1                |
|   | <b>20 381</b>   | <b>3 205 856</b>                                  | <b>3 226 237</b> |
|   |   |   |                  |
|   | <b>Liabilities at<br/>fair value through<br/>profit or loss</b> | <b>Other<br/>financial<br/>liabilities</b>        | <b>Total</b>     |
| <b>Liabilities as per balance sheet</b> |   |   |                  |
| Short-term borrowings from banks        | –   | 205 000   | 205 000          |
| Payables to brokers                     | –   | 14 593  | 14 593           |
| Other short-term liabilities            | –   | 3 483   | 3 483            |
|   | <b>–</b>  | <b>223 076</b>                                    | <b>223 076</b>   |
|   |   |   |                  |
|   |   |   |                  |
| At December 31, 2015                    | Loans and<br>receivables  | Assets at<br>fair value through<br>profit or loss | Total            |
| <b>Assets as per balance sheet</b>      |   |   |                  |
| Cash and cash equivalents               | 21 059  | –   | 21 059           |
| Receivables from brokers                | 3 978   | –   | 3 978            |
| Marketable securities                   | –   | 4 118 629   | 4 118 629        |
| Other assets                            | 1   | –   | 1                |
|   | <b>25 038</b>   | <b>4 118 629</b>                                  | <b>4 143 667</b> |
|   |   |   |                  |
|   | <b>Liabilities at<br/>fair value through<br/>profit or loss</b> | <b>Other<br/>financial<br/>liabilities</b>        | <b>Total</b>     |
| <b>Liabilities as per balance sheet</b> |   |   |                  |
| Short-term borrowings from banks        | –   | 160 000   | 160 000          |
| Payables to brokers                     | –   | 1 198   | 1 198            |
| Other short-term liabilities            | –   | 4 068   | 4 068            |
|   | <b>–</b>  | <b>165 266</b>                                    | <b>165 266</b>   |

Profit and loss from financial assets and liabilities are allocated to categories as follows (in CHF 1 000):

| 2016  | Loans and<br>receivables | Financial<br>instruments<br>at fair value<br>through profit<br>or loss | Other<br>financial<br>liabilities | Total     |
|---|--------------------------|--|-----------------------------------|-----------|
| <b>Profit and loss from financial instruments</b> |                          |  |                                   |           |
| Dividend income                                   | –                        | 8 679  | –                                 | 8 679     |
| Foreign exchange gains net                        | 578                      | –  | –                                 | 578       |
| Losses from marketable securities                 | –                        | (773 707)  | –                                 | (773 707) |
| Finance expenses                                  | –                        | –  | (1 085)                           | (1 085)   |

## 2015

|   |         |         |       |         |
|---|---------|---------|-------|---------|
| <b>Profit and loss from financial instruments</b> |         |         |       |         |
| Gains from marketable securities                  | –       | 690 211 | –     | 690 211 |
| Interest income                                   | 1       | –       | –     | 1       |
| Dividend income                                   | –       | 6 647   | –     | 6 647   |
| Finance expenses                                  | –       | –       | (179) | (179)   |
| Foreign exchange losses net                       | (1 334) | –       | –     | (1 334) |

### 16. Related party transactions

The asset management and administration of the Company has been delegated to Bellevue Asset Management Group. Based on the 1.1% all-in fee model no additional costs incurred at Bellevue Asset Management Group were charged to the BB Biotech Group (2015: none). Purchases and sales of shares traded in Switzerland are partly processed and settled via Bank am Bellevue AG. In addition, Bank am Bellevue AG was mandated with a market making mandate. The commissions for these transactions amount to 0.15%, 0.20%, and 0.25% respectively. The amounts outstanding at the balance sheet date are disclosed in note 6, «Other short-term liabilities».

Detailed information regarding the remuneration model for the Board of Directors and the asset manager are mentioned under note 8, «Administrative expenses».

### 17. Significant shareholders

The Board of Directors is aware of the following significant shareholder:

| Voting rights in %                         | 2016 | 2015 |
|--|------|------|
| Lazard Asset Management LLC, New York, USA | n.a. | 3.53 |

### 18. Subsequent events

There have been no events subsequent to December 31, 2016, which would affect the 2016 consolidated financial statements.



Report of the statutory auditor  
to the General Meeting of  
BB Biotech AG  
Schaffhausen

## Report on the audit of the consolidated financial statements

### *Opinion*

We have audited the consolidated financial statements of BB Biotech AG and its subsidiaries (the Group), which comprise the consolidated statement of financial position as at 31 December 2016 and the consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the consolidated financial statements (pages 40 to 55) give a true and fair view of the consolidated financial position of the Group as at 31 December 2016 and its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with the International Financial Reporting Standards (IFRS) and comply with Article 14 of the Directive on Financial Reporting (DFR) of the SIX Swiss Exchange as well as Swiss law.

### *Basis for opinion*

We conducted our audit in accordance with Swiss law, International Standards on Auditing (ISAs) and Swiss Auditing Standards. Our responsibilities under those provisions and standards are further described in the «Auditor’s responsibilities for the audit of the consolidated financial statements» section of our report.

We are independent of the Group in accordance with the provisions of Swiss law and the requirements of the Swiss audit profession, as well as the IESBA Code of Ethics for Professional Accountants, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

### *Our audit approach*

|                 |   |
|-----------------|---|
| <b>Overview</b> | Overall Group materiality: CHF 30 030 000   |
|                 | We concluded full scope audit work at all of the reporting units which are located in Switzerland and Curacao.  |
|                 | Our audit scope therefore addressed 100% of the Group’s assets, equity, income, expenses and cash flows.  |
|                 | As key audit matters the following areas of focus have been identified: <ul style="list-style-type: none"><li>– <i>Valuation of Investments</i></li><li>– <i>Ownership of Investments</i></li><li>– <i>All-in fee calculation</i></li></ul> |



#### *Audit scope*

We tailored the scope of our audit in order to perform sufficient work to enable us to provide an opinion on the consolidated financial statements as a whole, taking into account the structure of the Group, the accounting processes and controls, and the industry in which the Group operates.

The Group consists of a holding company located in Switzerland and four reporting entities located in Curacao which hold investments in companies in the biotechnology industry. Full scope audit work has been performed on each reporting entity.

#### *Materiality*

The scope of our audit was influenced by our application of materiality. Our audit opinion aims to provide reasonable assurance that the consolidated financial statements are free from material misstatement. Misstatements may arise due to fraud or error. They are considered material if individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the consolidated financial statements.

Based on our professional judgement, we determined certain quantitative thresholds for materiality, including the overall Group materiality for the consolidated financial statements as a whole as set out in the table below. These, together with qualitative considerations, helped us to determine the scope of our audit and the nature, timing and extent of our audit procedures and to evaluate the effect of misstatements, both individually and in aggregate on the consolidated financial statements as a whole.

|  |  |
|--|--|
| <b>Overall Group materiality</b>                       | CHF 30 030 000   |
| <b>How we determined it</b>                            | 1% of total shareholders' equity   |
| <b>Rationale for the materiality benchmark applied</b> | We chose total shareholders' equity as the benchmark because, in our view, this is the key metric of interest to investors, and is a generally accepted measure used for investment companies. |

#### *Key audit matters*

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

## Valuation of Investments

---

### Key audit matter

The investment portfolio comprises investments in marketable securities.

We focused on this area because of the significance of the value of the investments in the financial statements.

As set out in note 4 (Schedule of investments) investments amount to CHF 3 206 million or 106.8% of total assets. Refer to note 2 (Summary of significant accounting policies) for the valuation methods applied.

### How our audit addressed the key audit matter

The investment valuations are prepared by the Investment Manager applying the valuation methods disclosed in note 2. The Board of Directors approves the valuations of the investments.

We verified the design and implementation of the controls around the valuation of investments at the Investment Manager, to determine whether appropriate controls are in place.

We verified the quoted prices of marketable investments by agreeing them to an independent source, which is different from the source used by the Investment Manager.

We obtained sufficient audit evidence to conclude that the inputs and estimates used for the valuation of the investments are within a reasonable range and that valuation methodology policies were appropriate and consistently applied by the Board of Directors.

## Ownership of Investments

---

### Key audit matter

There is a risk that BB Biotech AG may not have sufficient legal entitlement to these investments.

We focused on this area because of the significance of the value of the investments in the financial statements.

### How our audit addressed the key audit matter

Investments are safeguarded by an independent custodian. We verified the ownership of investments by confirming the existence of the investment holdings with the custodian.

## All-in fee calculation

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### Key audit matter

BB Biotech AG has delegated administration and asset management to Bellevue Asset Management AG and its subsidiary. Remuneration is calculated based on the average market capitalisation of the company.

We focused on this area because of the significance of this expense in the financial statements.

### How our audit addressed the key audit matter

We verified the inputs of the calculation by agreeing the average market capitalisation to an independent source which is different from the source used by the Investment Manager and recalculated the amount.

### *Other information in the annual report*

The Board of Directors is responsible for the other information in the annual report. The other information comprises all information included in the annual report, but does not include the consolidated financial statements, the stand-alone financial statements and the remuneration report of BB Biotech AG and our auditor's reports thereon.

Our opinion on the consolidated financial statements does not cover the other information in the annual report and we do not express any form of assurance conclusion thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information in the annual report and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

*Responsibilities of the Board of Directors for the consolidated financial statements*

The Board of Directors is responsible for the preparation of the consolidated financial statements that give a true and fair view in accordance with IFRS, the Article 14 of the Directive on Financial Reporting (DFR) of the SIX Swiss Exchange and the provisions of Swiss law, and for such internal control as the Board of Directors determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the Board of Directors is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Board of Directors either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

*Auditor's responsibilities for the audit of the consolidated financial statements*

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Swiss law, ISAs and Swiss Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

A further description of our responsibilities for the audit of the consolidated financial statements is located at the website of EXPERTsuisse: <http://expertsuisse.ch/en/audit-report-for-public-companies>. This description forms part of our auditor's report.

**Report on other legal and regulatory requirements**

In accordance with article 728a paragraph 1 item 3 CO and Swiss Auditing Standard 890, we confirm that an internal control system exists which has been designed for the preparation of consolidated financial statements according to the instructions of the Board of Directors.

We recommend that the consolidated financial statements submitted to you be approved.

PricewaterhouseCoopers AG

Adrian Keller  
Audit expert  
Auditor in charge

Martin Gubler  
Audit expert

Zürich, 16 February 2017



# Financial statements BB Biotech AG

## Balance sheet as at December 31

(in CHF)

|   | Notes | 2016                 | 2015                 |
|---|-------|----------------------|----------------------|
| <b>Current assets</b>                             |       |                      |                      |
| Cash and cash equivalents                         |       | 320 106              | 90 038               |
| Other current receivables                         |       | 1 189                | 1 387                |
|   |       | <b>321 295</b>       | <b>91 425</b>        |
| <b>Non-current assets</b>                         |       |                      |                      |
| Investments                                       |       | 1 177 069 500        | 1 177 069 500        |
|   |       | <b>1 177 069 500</b> | <b>1 177 069 500</b> |
| <b>Total assets</b>                               |       | <b>1 177 390 795</b> | <b>1 177 160 925</b> |
| <b>Current liabilities</b>                        |       |                      |                      |
| Other current liabilities                         | 2.1   | 751 594 237          | 573 440 374          |
| Accrued expenses                                  |       | 248 378              | 346 985              |
|   |       | <b>751 842 615</b>   | <b>573 787 359</b>   |
| <b>Long-term liabilities</b>                      |       |                      |                      |
| Other long-term liabilities                       | 2.2   | –                    | 537 418              |
|   |       | <b>–</b>             | <b>537 418</b>       |
| <b>Total liabilities</b>                          |       | <b>751 842 615</b>   | <b>574 324 777</b>   |
| <b>Shareholders' equity</b>                       |       |                      |                      |
| Share capital                                     | 2.3   | 11 080 000           | 11 850 000           |
| Legal capital reserves                            |       |                      |                      |
| – Paid-in capital reserve <sup>1)</sup>           | 2.3   | 20 579 224           | 156 309 224          |
| Legal profit reserves                             |       |                      |                      |
| – General legal reserve                           |       | 4 500 000            | 4 500 000            |
| – Reserve for treasury shares <sup>2)</sup>       |       | 858 769              | 3 099 383            |
| Other reserves                                    |       | 380 968 987          | 231 252 788          |
| Retained earnings                                 | 5/6   | 7 561 200            | 312 057 844          |
| Treasury shares                                   |       | –                    | (116 233 091)        |
|   |       | <b>425 548 180</b>   | <b>602 836 148</b>   |
| <b>Total liabilities and shareholders' equity</b> |       | <b>1 177 390 795</b> | <b>1 177 160 925</b> |

<sup>1)</sup> Of which CHF 20 441 000 not yet confirmed by the Swiss Tax Authorities

<sup>2)</sup> For treasury shares held by subsidiaries

The financial statements were approved by the Board of Directors of BB Biotech AG on February 14, 2017.



## Statement of income for the year ended December 31

(in CHF)

|   | Notes | 2016               | 2015               |
|---|-------|--------------------|--------------------|
| <b>Operating income</b>                                 |       |                    |                    |
| Income from investments                                 |       | –                  | 300 000 000        |
| Other income  | 2.4   | 5 996 186          | 6 589 144          |
|   |       | <b>5 996 186</b>   | <b>306 589 144</b> |
| <b>Operating expenses</b>                               |       |                    |                    |
| Administrative expenses                                 | 2.5   | (1 641 514)        | (1 701 942)        |
| Other expenses  | 2.6   | (3 855 642)        | (4 345 715)        |
|   |       | <b>(5 497 156)</b> | <b>(6 047 657)</b> |
| <b>Operating income before finance income and taxes</b> |       | <b>499 030</b>     | <b>300 541 487</b> |
| Finance income  |       | 2 673              | –                  |
| Finance expenses  |       | (15 195)           | (5 603)            |
| <b>Operating income before tax</b>                      |       | <b>486 508</b>     | <b>300 535 884</b> |
| Tax expenses  | 2.7   | (53 152)           | (60 700)           |
| <b>Net income for the year</b>                          |       | <b>433 356</b>     | <b>300 475 184</b> |

## 1. Accounting policies

### General

The financial statements of BB Biotech AG (the Company) have been prepared in accordance with the provisions of commercial accounting as set out in the Swiss Code of Obligations. The financial statements have been prepared under the historical cost convention.

### Cash and cash equivalents

Cash and cash equivalents includes current accounts at banks. These are stated at the notional amount.

### Investments

The investments include the subsidiaries over which the Company has control. The Company controls an entity when the Company is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. Initially and subsequently, investments are valued at historical cost. An impairment is recognized if the value in use is expected to permanently fall below the book value.

Income from investments is recognized in the income statement when the Company's right to receive the dividend payment is established.

### Receivables/liabilities

Receivables/liabilities are classified as current assets/liabilities if maturity is expected to be within twelve month after the balance sheet date. Else, they are classified as long-term assets/liabilities. Receivables/liabilities are recognized at notional value. Receivables/liabilities against related parties include transactions with the Board of Directors as well as companies and affiliates of the asset manager. Receivables/liabilities against group companies result mainly from cash-pooling activities of the group. The group consists of BB Biotech AG and the mentioned subsidiaries under 3.3.

### Treasury shares

Treasury shares are deducted from shareholders' equity. All profits and losses arising from trading in treasury shares are included in the income statement. A reserve for treasury shares is built for treasury shares held by subsidiaries. The reserve is based on cost prices.

## 2. Details and explanations to the financial statements

### 2.1 Other current liabilities

The other current liabilities comprise the following:

|                 | 2016               | 2015               |
|-----------------|--------------------|--------------------|
| Third parties   | 382 287            | 285 587            |
| Related parties | 646 711            | 207 548            |
| Group companies | 750 565 239        | 572 947 239        |
|                 | <b>751 594 237</b> | <b>573 440 374</b> |

### 2.2 Other long-term liabilities

The other long-term liabilities comprise the following:

|                 | 2016     | 2015           |
|-----------------|----------|----------------|
| Related parties | –        | 537 418        |
|                 | <b>–</b> | <b>537 418</b> |

### 2.3 Shareholders' equity

The share capital of the Company consists of 55.4 mn fully paid registered shares (2015: 11.85 mn registered shares) with a par value of CHF 0.20 each (2015: CHF 1). At the General Shareholders' Meeting held March 17, 2016, a five-for-one share split was approved. The split was effective as of March 29, 2016.

At the General Shareholders' Meeting held March 17, 2016, a resolution was approved to reduce the Company's share capital by CHF 770 000 to a level of CHF 11 080 000. On July 12, 2016, 3 850 000 registered shares at a par value of CHF 770 000 were withdrawn from the commercial register, the capital reduction has thus been concluded.

In addition, the General Shareholders' Meeting held March 17, 2016, has approved a share buy-back program, whereby up to 5 540 000 shares may be repurchased by the Company. Until December 31, 2016, no shares had been repurchased under this share buy-back program.

At December 31, 2016 and 2015, the Company has neither an authorized nor a conditional capital.

The change in paid-in capital reserve is due to the cash distribution of CHF 135 730 000 which was approved at the General Shareholders' Meeting held on March 17, 2016.

#### 2.4 Other income

Other income comprises the following:

|                       | 2016             | 2015             |
|-----------------------|------------------|------------------|
| Income group services | 5 992 000        | 6 585 000        |
| Other income          | 4 186            | 4 144            |
|                       | <b>5 996 186</b> | <b>6 589 144</b> |

#### 2.5 Administrative expenses

Administrative expenses comprise the following:

|                                 | 2016             | 2015             |
|---------------------------------|------------------|------------------|
| Board compensation              | 956 130          | 956 348          |
| Investment manager compensation | 610 785          | 729 570          |
| Staff costs                     | 74 599           | 16 024           |
|                                 | <b>1 641 514</b> | <b>1 701 942</b> |

The remuneration report discloses further details to the Board compensation.

#### 2.6 Other expenses

Other expenses comprise the following:

|                                   | 2016             | 2015             |
|-----------------------------------|------------------|------------------|
| Marketing and financial reporting | 2 037 834        | 2 207 030        |
| Consulting and audit              | 290 254          | 322 344          |
| Bank charges                      | 170 175          | 299 612          |
| Other expenses                    | 1 357 379        | 1 516 729        |
|                                   | <b>3 855 642</b> | <b>4 345 715</b> |

#### 2.7 Tax expenses

Tax expenses comprise the following:

|               | 2016          | 2015          |
|---------------|---------------|---------------|
| Income taxes  | 31 000        | 40 403        |
| Capital taxes | 22 152        | 20 297        |
|               | <b>53 152</b> | <b>60 700</b> |

### 3. Other information required by law

#### 3.1 Name, legal form and registered office

BB Biotech AG is a limited company according to the Swiss Code of Obligation and has its registered office at Schwertstrasse 6 in Schaffhausen.

#### 3.2 Declaration of number of full-time equivalents

The number of full-time equivalents did not exceed 10 in the calendar year 2016 (2015: below 10).

### 3.3 Investments

Investments of BB Biotech AG comprise, in the business years 2016 and 2015, the following subsidiaries:

| Company                      | Capital in CHF | Capital and voting interest in % |
|------------------------------|----------------|----------------------------------|
| Biotech Focus N.V., Curaçao  | 10 778         | 100                              |
| Biotech Growth N.V., Curaçao | 10 778         | 100                              |
| Biotech Invest N.V., Curaçao | 10 778         | 100                              |
| Biotech Target N.V., Curaçao | 10 778         | 100                              |

### 3.4 Treasury shares (balances and change)

Treasury shares are partly held by the Company directly and partly by its 100% subsidiary Biotech Target N.V. indirectly.

|  | BB Biotech AG    | Biotech Target N.V. | Total            |
|--|------------------|---------------------|------------------|
| <b>Balance at January 1, 2015 <sup>1)</sup></b>                              | <b>2 776 000</b> | <b>60 040</b>       | <b>2 836 040</b> |
| Purchases BB Biotech AG at an average price of CHF 56.73 <sup>1)</sup>       | 725 525          | –                   | 725 525          |
| Purchases Biotech Target N.V. at an average price of CHF 55.98 <sup>1)</sup> | –                | 2 342 045           | 2 342 045        |
| Sales Biotech Target at an average price of CHF 57.51 <sup>1)</sup>          | –                | (2 348 045)         | (2 348 045)      |
| <b>Balance at December 31, 2015 <sup>1)</sup></b>                            | <b>3 501 525</b> | <b>54 040</b>       | <b>3 555 565</b> |
| Purchases BB Biotech AG at an average price of CHF 48.96 <sup>1)</sup>       | 348 475          | –                   | 348 475          |
| Purchases Biotech Target N.V. at an average price of CHF 47.60 <sup>1)</sup> | –                | 796 369             | 796 369          |
| Sales Biotech Target at an average price of CHF 50.63 <sup>1)</sup>          | –                | (834 694)           | (834 694)        |
| Capital reduction  | (3 850 000)      | –                   | (3 850 000)      |
| <b>Balance at December 31, 2016</b>  | <b>–</b>         | <b>15 715</b>       | <b>15 715</b>    |

<sup>1)</sup> The five-for-one share split as at March 29, 2016, is accounted for in the value.

### 3.5 Audit fees

The audit fees comprise the following:

|                    | 2016           | 2015           |
|--------------------|----------------|----------------|
| Audit fees         | 125 000        | 120 000        |
| Audit-related fees | 20 600         | 2 160          |
|                    | <b>145 600</b> | <b>122 160</b> |

### 3.6 Commitments and contingencies

The Company had no commitments or other off-balance sheet transactions open at December 31, 2016 (2015: none).

The operations of the Company are affected by legislative, fiscal and regulatory developments for which provisions are made where deemed necessary. The Board of Directors concludes that as at December 31, 2016, no proceedings existed which could have any material effect on the financial position of the Company (2015: none).

### 3.7 Subsequent events

There have been no events subsequent to December 31, 2016, which would affect the 2016 financial statements.

## 4. Other information

### 4.1 Significant shareholders

The Board of Directors is aware of the following significant shareholder:

| Voting rights in %                         | 2016 | 2015 |
|--|------|------|
| Lazard Asset Management LLC, New York, USA | n.a. | 3.53 |

#### 4.2 Statement of holdings of the Board of Directors

As at December 31, the Board of Directors held the following registered shares of BB Biotech AG:

|  | 2016      | 2015    |
|--|-----------|---------|
| Dr. Erich Hunziker, Chairman <sup>1)</sup> | 1 451 255 | 151 255 |
| Dr. Clive Meanwell, Vice-Chairman          | –         | –       |
| Prof. Dr. Dr. Klaus Strein                 | 13 000    | –       |

<sup>1)</sup> The five-for-one share split as at March 29, 2016, is accounted for in the previous year value.

#### 4.3 Management contracts

On behalf of the Company, the Board of Directors has entered into a management contract with Bellevue Asset Management Group (investment manager). In this contract, the investment manager commits to carry out management services relating to the investment activity and management of BB Biotech AG. Under this contract the Company paid in the business year 2016 CHF 610 785 (2015: CHF 729 570) to Bellevue Asset Management AG.

#### 4.4 Annual report and cash flow statement

Due to the fact, that BB Biotech AG prepares consolidated financial statements in accordance with a recognized international accounting standard (IFRS), the Company doesn't prepare, in line with the legal requirements, an annual report and cash flow statement.

### 5. Movements on retained earnings

|   | 2016             | 2015               |
|---|------------------|--------------------|
| Retained earnings at the beginning of the year  | 312 057 844      | 11 582 660         |
| Allocation to other reserves                    | (280 000 000)    | –                  |
| Dividend  | (24 930 000)     | –                  |
| Net income for the year                         | 433 356          | 300 475 184        |
| <b>Retained earnings at the end of the year</b> | <b>7 561 200</b> | <b>312 057 844</b> |

### 6. Proposal of the Board of Directors for the appropriation of retained earnings

|  | 2016<br>Proposal<br>of the Board | 2015<br>Resolution<br>passed at the AGM |
|--|----------------------------------|---|
| Retained earnings  | 7 561 200                        | 312 057 844                             |
| Appropriation of other reserves  | 155 000 000                      | –                                       |
| <b>Retained earnings at the disposal of the Annual General Meeting</b> | <b>162 561 200</b>               | <b>312 057 844</b>                      |
| Dividend   | 152 350 000                      | 24 930 000                              |
| Allocation to other reserves   | –                                | 280 000 000                             |
| Carry forward to the next period                                       | 10 211 200                       | 7 127 844                               |
|  | <b>162 561 200</b>               | <b>312 057 844</b>                      |



Report of the statutory auditor  
to the General Meeting of  
BB Biotech AG  
Schaffhausen

## **Report on the audit of the financial statements**

### *Opinion*

We have audited the financial statements of BB Biotech AG, which comprise the balance sheet as at 31 December 2016, income statement and notes for the year then ended, including a summary of significant accounting policies.

In our opinion, the financial statements (pages 62 to 67) as at 31 December 2016 comply with Swiss law and the company's articles of incorporation.

### *Basis for opinion*

We conducted our audit in accordance with Swiss law and Swiss Auditing Standards. Our responsibilities under those provisions and standards are further described in the «Auditor's responsibilities for the audit of the financial statements» section of our report.

We are independent of the entity in accordance with the provisions of Swiss law and the requirements of the Swiss audit profession and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

### **Our audit approach**

#### *Audit scope*

We designed our audit by determining materiality and assessing the risks of material misstatement in the financial statements. In particular, we considered where subjective judgements were made; for example, in respect of significant accounting estimates that involved making assumptions and considering future events that are inherently uncertain. As in all of our audits, we also addressed the risk of management override of internal controls, including among other matters consideration of whether there was evidence of bias that represented a risk of material misstatement due to fraud.

#### *Materiality*

The scope of our audit was influenced by our application of materiality. Our audit opinion aims to provide reasonable assurance that the financial statements are free from material misstatement. Misstatements may arise due to fraud or error. They are considered material if individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

Based on our professional judgement, we determined certain quantitative thresholds for materiality, including the overall materiality for the financial statements as a whole as set out in the table below. These, together with qualitative considerations, helped us to determine the scope of our audit and the nature, timing and extent of our audit procedures and to evaluate the effect of misstatements, both individually and in aggregate on the financial statements as a whole.



|  |  |
|--|--|
| <b>Overall Group materiality</b>                       | CHF 4 255 000  |
| <b>How we determined it</b>                            | 1% of total shareholders' equity   |
| <b>Rationale for the materiality benchmark applied</b> | We chose total shareholders' equity as the benchmark because, in our view, this is the key metric of interest to investors, and is a generally accepted measure used for investment companies. |

*Report on key audit matters based on the circular 1/2015 of the Federal Audit Oversight Authority*  
We have determined that there are no key audit matters to communicate in our report.

*Responsibilities of the Board of Directors for the financial statements*

The Board of Directors is responsible for the preparation of the financial statements in accordance with the provisions of Swiss law and the company's articles of incorporation, and for such internal control as the Board of Directors determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Board of Directors is responsible for assessing the entity's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Board of Directors either intends to liquidate the entity or to cease operations, or has no realistic alternative but to do so.

*Auditor's responsibilities for the audit of the financial statements*

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Swiss law and Swiss Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

A further description of our responsibilities for the audit of the financial statements is located at the website of EXPERTsuisse: <http://expertsuisse.ch/en/audit-report-for-public-companies>. This description forms part of our auditor's report.

**Report on other legal and regulatory requirements**

In accordance with article 728a paragraph 1 item 3 CO and Swiss Auditing Standard 890, we confirm that an internal control system exists which has been designed for the preparation of financial statements according to the instructions of the Board of Directors.

We further confirm that the proposed appropriation of available earnings complies with Swiss law and the company's articles of incorporation. We recommend that the financial statements submitted to you be approved.

PricewaterhouseCoopers AG

|                   |               |
|-------------------|---------------|
| Adrian Keller     | Martin Gubler |
| Audit expert      | Audit expert  |
| Auditor in charge |               |

Zürich, 16 February 2017



# Corporate Governance

The following chapter is intended to supplement the annual report with information on corporate governance. As BB Biotech AG is listed on the Swiss, German, and Italian stock exchanges, the company wishes to be in compliance with the rules and regulations that apply to each of these markets. A great deal of the required information has already been supplied in past sections of the annual report or is available for download on the Internet. In such cases we allow us to refer to the relevant pages in this report or to our website, [www.bbbiotech.com](http://www.bbbiotech.com).

### 1. Introductory remarks with respect to the specific structure of BB Biotech AG as an investment company

BB Biotech AG is an investment company listed on a stock exchange according to article 2 paragraph 3 of the Swiss Federal Act on Collective Investment Schemes (CISA) in the form of a company limited by shares. As a company limited by shares which is listed on a stock exchange, BB Biotech AG is subject to the supervision and regulation by the SIX Swiss Exchange. Therefore, BB Biotech AG is exempted from the supervision of the Swiss Financial Market Supervisory Authority (FINMA) as well as from the regulation pursuant to the CISA.

As an investment company, the sole purpose of BB Biotech AG is the management of the assets of its investors. The BB Biotech group does not pursue any commercial or operational activity beyond the asset management.

### 2. Group structure and shareholdership

Please refer to note 1 of the consolidated annual financial statements. In addition hereto, we wish to advise that the Board of Directors is not aware of any cross-holdings with other companies exceeding a limit of 5% in terms of capital or the number of votes. Information on key stockholders is listed in note 17 to the consolidated annual financial statements. The notifications which have been notified to the company and the disclosure office of the SIX Swiss Exchange AG during the fiscal year pursuant to article 20 of the Federal Act on Stock Exchanges and Securities Trading and which have been published on the latter's electronic publication platform may be viewed via the search function on <https://www.six-exchange-regulation.com/de/home/publications/significant-shareholders.html>.

### 3. Capital structure

The capital structure is as follows:

(in CHF 1 000)

|                          | Nominal value of the share capital | Authorized capital | Conditional capital |
|--------------------------|------------------------------------|--------------------|---------------------|
| <b>January 1, 2014</b>   | <b>11 850</b>                      | –                  | –                   |
| <b>December 31, 2014</b> | <b>11 850</b>                      | –                  | –                   |
| <b>January 1, 2015</b>   | <b>11 850</b>                      | –                  | –                   |
| <b>December 31, 2015</b> | <b>11 850</b>                      | –                  | –                   |
| <b>January 1, 2016</b>   | <b>11 850</b>                      | –                  | –                   |
| Capital reduction        | (770)                              | –                  | –                   |
| <b>December 31, 2016</b> | <b>11 080</b>                      | –                  | –                   |

The share capital of the Company consists of 55.4 mn fully paid registered shares with a par value of CHF 0.20 (2015 and 2014: 11.85 mn registered shares with a par value of CHF 1). At the General Shareholders' Meeting held March 17, 2016, a five-for-one share split was approved. The split was effective as of March 29, 2016.

The change in equity is disclosed in the consolidated financial statement of changes in equity on page 42.

## **4. Board of Directors**

### **4.1 Members, nationality, and stock holdings**

- Dr. Erich Hunziker, Chairman, Switzerland, 1 451 255 shares (2015: 151 255 shares, share-split adjusted)
- Dr. Clive Meanwell, Vice-Chairman, USA, no shares (2015: none)
- Prof. Dr. Dr. Klaus Strein, Germany, 13 000 shares (2015: none)

The members of the Board of Directors have no executive functions, neither today nor in the last three years. Moreover, no business relations are in place between the Board members and BB Biotech AG. Detailed résumés are available on our website [www.bbbiotech.com](http://www.bbbiotech.com).

### **4.2 Further mandates of the members of the Board of Directors**

- Dr. Erich Hunziker is a member of the Board of Directors of AB2Bio AG. Furthermore, he is a member of the Supervisory Board of the IMD Management School.
- Dr. Clive Meanwell is a member of the Board of Directors and CEO of The Medicines Company.
- Prof. Dr. Dr. Klaus Strein is a member of the Board of Directors of NovImmune SA.

### **4.3 Number of permissible external mandates**

The rule with respect to the number of permissible external mandates of members of the Board of Directors can be found in article 23 of the articles of incorporation of the company. The articles of incorporation are available for download under the following link: [www.bbbiotech.ch/bylaws](http://www.bbbiotech.ch/bylaws).

### **4.4 Election and term of office**

The Board of Directors is elected by a simple quorum for a term of office of one year. There are no limitations on its tenure.

The members of the Board of Directors have first been elected at the following General Meetings:

- Dr. Erich Hunziker: 2011 (Chairman since 2013)
- Dr. Clive Meanwell: 2004 (Vice-Chairman since 2011)
- Prof. Dr. Dr. Klaus Strein: 2013

### **4.5 Internal organization**

The Board of Directors consists of a Chairman, Vice-Chairman and a member. In addition, the members of the Board of Directors are appointed in the following committees:

- Dr. Erich Hunziker, Chairman: Chairman of the Audit Committee
- Dr. Clive Meanwell, Vice-Chairman: Member of the Audit Committee and Chairman of the Remuneration and Nomination Committee
- Prof. Dr. Dr. Klaus Strein, Member: Member of the Remuneration and Nomination Committee

The Board of Directors generally meets once per month via video or telephone conference. In addition, two three-day strategy meetings take place each year. These meetings are attended by representatives of the asset manager commissioned. No ordinary board meetings are held in the months of the strategy meetings. In these meetings, the Board of Directors regularly examines the compliance with the investment guidelines. In addition, the representatives entrusted with the asset management present the respective investment and divestiture proposals before their implementation to the Board of Directors. The latter examines the individual investment proposals with respect to the compliance with the investment strategy as well as the investment process. During the fiscal year 2016, eight ordinary board meetings and two strategy meetings took place.

The members of the Audit Committee hold quarterly meetings, the Remuneration and Nomination Committee holds at least one meeting a year. During 2016, four ordinary meetings of the Audit Committee and one ordinary meeting of the Remuneration and Nomination Committee took place.

### **4.6 Director's dealing**

BB Biotech AG publishes each purchase/sale of BB Biotech AG stocks by members of the Board of Directors as well as by first-degree relatives of such persons within three trading days. This information is made available for 30 days on the website.

## **5. Asset management**

BB Biotech AG as an investment company listed on a stock exchange does not have a management of its own within the meaning of article 716b CO, respectively the Ordinance Against Excessive Compensation in Public Corporations. The Board of Directors of BB Biotech AG has – as it is customary for investment companies – outsourced the asset management based on the management contract to a specialized third company, namely to Bellevue Asset Management Group. The supervision of Bellevue Asset Management Group acting as external asset manager and the taking of core decisions relating to the investment policy remain with the Board of Directors of BB Biotech AG as a non-transferable duty. The management contract is valid for an indefinite period and can be terminated by either party with a notice period of twelve months with effect as per the end of the following calendar year. Detailed information on this mandate and the members of the investment manager involved is available on the website. Since January 1, 2014, the remuneration paid to the asset manager has been based upon a 1.1% all-in fee on the average market capitalization without any additional fixed or performance-based elements of compensation, which is paid on a monthly basis.

## **6. Remuneration**

See notes 8 and 16 of the consolidated financial statements as well as the remuneration report hereinafter for details relating to the remuneration of the Board of Directors and the process of determining its remuneration.

The rules governing the approval by the General Meeting of the remuneration of the members of the Board of Directors as well as the principles governing the remuneration of the members of the Board of Directors can be found in articles 19 – 21 of the articles of incorporation of the company. The articles of incorporation do not contain any provision with respect to loans, credits and pension benefits to the members of the Board of Directors. The articles of incorporation are available for download under the following link: [www.bbbiotech.ch/bylaws](http://www.bbbiotech.ch/bylaws).

## **7. Stockholders' rights of cooperation**

### **7.1 Limitations to voting rights; voting by proxy**

There are no limitations to voting rights and no internal rules at variance from the statutory provisions concerning attendance of a General Meeting. The articles of incorporation do not contain any provision with respect to the issuance of directives to the independent voting rights representative or to the electronic participation at a General Meeting.

### **7.2 General Meeting**

There are no statutory rules relating to the presence of a majority quorum which differ from the statutory provisions. The convening of a General Meeting as well as the request that items be included in the agenda are governed by article 7 of the articles of incorporation of the company as well as the statutory provisions of law.

### **7.3 Dividend policy**

At present, the company is pursuing a structured distribution policy. The objective of the Board of Directors is to achieve an annual return of 10% for shareholders via dividends combined with continued share buy-backs. The Board of Directors suggests distributing an annual dividend equivalent to approximately 5% of the average share price in December as well as seeking shareholder authorization for further share buy-backs of approximately 5% p.a.

## **8. Change-of-control and defensive measures**

### **8.1 Obligatory offer for sale**

An opting-out rule is in place.

### **8.2 Change-of-control clauses**

No change-of-control clauses are in place in favor of the Board of Directors.

## **9. Audits**

### **9.1 Duration of mandate and term of office of the lead auditor**

Since the fiscal year 1994, PricewaterhouseCoopers AG has been the official auditor and group auditor of BB Biotech AG. The lead auditor, Adrian Keller, has been responsible for auditing the company's books since the fiscal year 2010.



## **9.2 Fees**

The following fees for professional services in the fiscal year ended December 31, 2016, were agreed:

- Audit fees (including interim audit): CHF 125 000
- Fees for audit-related services: CHF 20 600

## **9.3 Instruments of information of the external audit**

The asset manager and the auditors are continually in contact with each other. The auditor is consulted by the Board of Directors where necessary. The auditors attend at least two audit committee meetings per year.

## **10. Information policy/diary of Company events**

Please refer to «Shareholder information» at page 82.

## **11. Trading in own stocks**

BB Biotech AG operates, in line with legal and internal regulations, as an active purchaser/seller of own stocks itself on the market, securing additional liquidity in the process.



# Remuneration Report

This remuneration report for the fiscal year 2016 outlines the remuneration system as well as the remuneration of the members of the Board of Directors of BB Biotech AG. The content and scope of the information contained in this report is in accordance with the provisions of the Ordinance Against Excessive Compensation in Public Corporations (the Ordinance) and with the Directive on Information relating to Corporate Governance (DCG) of the SIX Swiss Exchange.

## **1. Responsibilities and authorities with respect to remuneration**

### **1.1 Introductory remarks relating to the specific structure of BB Biotech AG as an investment company**

The Board of Directors of BB Biotech AG has not made use of its competence to delegate the executive management of all or part of the company's business pursuant to article 716b CO and therefore manages the business of the company itself, to the extent it has not been delegated to the investment manager within the framework of the management contract. Accordingly, BB Biotech AG does not have an executive management pursuant to article 716b CO or the Ordinance.

For details, please refer to note 7.

### **1.2 Responsibilities and authorities with respect to the remuneration**

The Remuneration and Nomination Committee is responsible for ensuring that the process relating to the determination of the remuneration is held on a fair and transparent basis and that such process is controlled effectively. The adopted remuneration process shall serve as a basis for an adequate decision with respect to services rendered as well as an appropriate incentive to the individual members of the Board of Directors, taking into account the long-term interests of the shareholders and the company's success. In addition, the Remuneration and Nomination Committee assists the Board of Directors in determining the principles of the remuneration strategy of BB Biotech AG.

The Remuneration and Nomination Committee submits proposals to the Board of Directors for resolution in the following areas:

- Amount and composition of the aggregate remuneration of the Board of Directors;
- Amount and composition of the remuneration of the Chairman of the Board of Directors;
- Amount and composition of the remuneration of the Vice-Chairman as well as the other members of the Board of Directors;
- Amount and composition of the additional remuneration of the members of a Board of Directors Committee.

Furthermore, the Remuneration and Nomination Committee resolves on conclusion, termination, or amendment of contracts entered into with external asset managers and thus in particular on the amount of the compensation to be paid under the respective contracts.

## **2. Remuneration of the members of the Board of Directors**

### **2.1 Principles**

The remuneration of the members of the Board of Directors is based on the scope of activity and responsibility of the individual members (Chairman of the Board of Directors, Vice-Chairman of the Board of Directors, member of the Board of Directors; involvement in committees: chairmanship of a committee, member of a committee).

The remuneration of the Board of Directors consists of the following elements:

- Fixed remuneration (disbursement by cash compensation);
- Social insurance contributions and duties.

The limitation to a fixed remuneration ensures that the focus of the Board of Directors lies on the long-term success of BB Biotech AG. Its amount takes account of the workload and responsibility of the individual members of the Board of Directors. Therefore, the remuneration of the Board of Directors has been separated from the compensation of the investment manager; thus, the Board of Directors does not have an incentive to take excessively high risks.

Upon request of the Remuneration and Nomination Committee, the entire Board of Directors resolves once a year on the amount of the remuneration of the members of the Board of Directors and the committees.

The Board of Directors had determined the fixed remuneration of its members (as a member of the Board of Directors or a committee) as follows:

|   | 2016<br>in CHF | 2015<br>in CHF |
|---|----------------|----------------|
| <b>Function/Responsibility</b>                        |                |                |
| Chairman  | 360 000        | 360 000        |
| Vice-Chairman   | 250 000        | 250 000        |
| Member  | 250 000        | 250 000        |
| Chairman of the Remuneration and Nomination Committee | 15 000         | 15 000         |
| Member of the Remuneration and Nomination Committee   | 10 000         | 10 000         |
| Chairman of the Audit Committee                       | 15 000         | 15 000         |
| Member of the Audit Committee                         | 10 000         | 10 000         |
|   | <b>910 000</b> | <b>910 000</b> |

## 2.2 Remuneration of the individual members of the Board of Directors in the reporting year (audited)

In the reporting year 2016, the three members of the Board of Directors received a total remuneration of CHF 956 130 (2015: CHF 956 348). From this amount, CHF 910 000 (2015: CHF 910 000) have been paid in the form of a fixed remuneration for the work on the Board of Directors and on the committees of the Board of Directors. The social insurance contributions and the duties amounted to a total of CHF 46 130 (2015: CHF 46 348).

The individual members of the Board of Directors were paid the following remuneration:

### Fiscal year 2016

| Name/Function                 | RNC <sup>1)</sup> | AC <sup>2)</sup> | Period                  | Fixed remuneration | Committee remuneration | Social insurance contributions and duties | Total   |
|-------------------------------|-------------------|------------------|-------------------------|--------------------|------------------------|---|---------|
| Hunziker Erich, Chairman      |                   | X                | 01.01.2016 – 31.12.2016 | 360 000            | 15 000                 | 30 000                                    | 405 000 |
| Meanwell Clive, Vice-Chairman | X                 | X                | 01.01.2016 – 31.12.2016 | 250 000            | 25 000                 | –   | 275 000 |
| Strein Klaus, Member          | X                 |                  | 01.01.2016 – 31.12.2016 | 250 000            | 10 000                 | 16 130                                    | 276 130 |

<sup>1)</sup> RNC = Remuneration and Nomination Committee

<sup>2)</sup> AC = Audit Committee

### Fiscal year 2015

| Name/Function                 | RNC <sup>1)</sup> | AC <sup>2)</sup> | Period                  | Fixed remuneration | Committee remuneration | Social insurance contributions and duties | Total   |
|-------------------------------|-------------------|------------------|-------------------------|--------------------|------------------------|---|---------|
| Hunziker Erich, Chairman      |                   | X                | 01.01.2015 – 31.12.2015 | 360 000            | 15 000                 | 30 000                                    | 405 000 |
| Meanwell Clive, Vice-Chairman | X                 | X                | 01.01.2015 – 31.12.2015 | 250 000            | 25 000                 | –   | 275 000 |
| Strein Klaus, Member          | X                 |                  | 01.01.2015 – 31.12.2015 | 250 000            | 10 000                 | 16 348                                    | 276 348 |

<sup>1)</sup> RNC = Remuneration and Nomination Committee

<sup>2)</sup> AC = Audit Committee

## 3. Remuneration of related parties at non-market conditions

In the reporting year 2016, no remuneration which was not at arm's length terms was paid to related parties (2015: none).

## 4. Remuneration of former members of the corporate bodies

In the reporting year 2016, no remuneration was paid to former members of the corporate bodies (2015: none).

#### **5. Loans and credits to the members of the Board of Directors**

The articles of incorporation of BB Biotech AG do not provide that loans and credits may be granted to the members of the Board of Directors.

Accordingly, no loans or credits which BB Biotech AG has granted to current or former members of the Board of Directors or to related parties were outstanding as of December 31, 2016 (December 31, 2015: none).

#### **6. Contractual terms at retirement from BB Biotech AG**

No member of the Board of Directors has a contract with BB Biotech AG providing for a severance payment in the event of leaving BB Biotech AG.

#### **7. Management contracts**

On behalf of the company, the Board of Directors has entered into a management contract with Bellevue Asset Management Group (investment manager). In this contract, the investment manager commits to carry out management services relating to the investment activity of BB Biotech AG. The management contract is valid for an indefinite period and can be terminated by either party with a notice period of twelve months with effect as per the end of the following calendar year. The remuneration of the investment manager is determined by the respective contract and corresponds to a fixed fee of 1.1% on the average market capitalization without any additional fixed or performance-based elements.



Report of the statutory auditor  
to the General Meeting on the  
remuneration report 2016

**Report of the statutory auditor to the General Meeting of  
BB Biotech, Schaffhausen**

We have audited the remuneration report of BB Biotech for the year ended 31 December 2016. The audit was limited to the information according to articles 14 – 16 of the Ordinance against Excessive Compensation in Stock Exchange Listed Companies (Ordinance) contained in the tables labeled 'audited' on pages 79 to 80 of the remuneration report.

*Board of Directors' responsibility*

The Board of Directors is responsible for the preparation and overall fair presentation of the remuneration report in accordance with Swiss law and the Ordinance against Excessive Compensation in Stock Exchange Listed Companies (Ordinance). The Board of Directors is also responsible for designing the remuneration system and defining individual remuneration packages.

*Auditor's responsibility*

Our responsibility is to express an opinion on the accompanying remuneration report. We conducted our audit in accordance with Swiss Auditing Standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the remuneration report complies with Swiss law and articles 14 – 16 of the Ordinance.

An audit involves performing procedures to obtain audit evidence on the disclosures made in the remuneration report with regard to compensation, loans and credits in accordance with articles 14 – 16 of the Ordinance. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatements in the remuneration report, whether due to fraud or error. This audit also includes evaluating the reasonableness of the methods applied to value components of remuneration, as well as assessing the overall presentation of the remuneration report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

*Opinion*

In our opinion, the remuneration report of BB Biotech for the year ended 31 December 2016 complies with Swiss law and articles 14 – 16 of the Ordinance.

PricewaterhouseCoopers AG

Adrian Keller  
Audit expert  
Auditor in charge

Martin Gubler  
Audit expert

Zürich, 16 February 2017



## Company profile

BB Biotech AG acquires holdings in companies in the biotechnology growth market and is currently one of the world's largest investors in the sector. The focus of the holdings is on quoted companies that are concentrating on the development and marketing of innovative medicines. For the selection of holdings, BB Biotech AG relies on fundamental analysis by physicians and molecular biologists. The Board of Directors has many years of industrial and scientific experience.

## Official listing and share structure as at December 31, 2016

|  |   |
|--|---|
| <b>Foundation:</b>                           | November 9, 1993; Schaffhausen, Switzerland   |
| <b>Issue price adj. November 15, 1993:</b>   | CHF 4.752   |
| <b>Official listing:</b>                     | December 27, 1993 in Switzerland; December 10, 1997 in Germany; October 19, 2000 in Italy |
| <b>Share structure:</b>                      | CHF 11.08 mn nominal, 55 400 000 registered shares with a par value of CHF 0.20 each      |
| <b>Shareholders, free float:</b>             | Institutional and private investors,<br>100.0% free float                                 |
| <b>Security number Switzerland:</b>          | 3 838 999   |
| <b>Security number in Germany and Italy:</b> | AoNFN3  |
| <b>ISIN:</b>                                 | CH0038389992  |

## Shareholder information

The Company publishes its net asset value daily via the major stock market information services and on its website [www.bbiatech.com](http://www.bbiatech.com). The portfolio composition is published at least every three months within quarterly reports.

## Quotes and reports

|                     |                         |   |                           |  |
|---------------------|-------------------------|---|---------------------------|--|
| <b>NAV:</b>         | <b>in CHF</b>           | – Datastream: S:BINA<br>– Reuters: BABB<br>– Telekurs: BIO resp. 85, BB1<br>– (Investdata)<br>– Finanz & Wirtschaft (CH)                                | <b>in EUR</b>             | – Datastream: D:BBNA<br>– Reuters: BABB                                  |
| <b>Stock price:</b> | <b>in CHF<br/>(SIX)</b> | – Bloomberg: BION SW Equity<br>– Datastream: S:BIO<br>– Reuters: BION.S<br>– Telekurs: BIO<br>– Finanz & Wirtschaft (CH)<br>– Neue Zürcher Zeitung (CH) | <b>in EUR<br/>(Xetra)</b> | – Bloomberg: BBZA GY Equity<br>– Datastream: D:BBZ<br>– Reuters: BION.DE |
|                     |                         |   | <b>in EUR<br/>(STAR)</b>  | – Bloomberg: BB IM Equity<br>– Datastream: I:BBB<br>– Reuters: BB.MI     |

## Corporate calendar 2017

|  |  |
|--|--|
| <b>Annual General Meeting 2017</b>             | March 16, 2017, 3.00 PM CET<br>Hotel arcona Living<br>Bleicheplatz 1<br>CH-8200 Schaffhausen |
| <b>Interim Report as at March 31, 2017</b>     | April 21, 2017, 7.00 AM CET  |
| <b>Interim Report as at June 30, 2017</b>      | July 21, 2017, 7.00 AM CET   |
| <b>Interim Report as at September 30, 2017</b> | October 20, 2017, 7.00 AM CET  |

The BB Biotech annual report is published in English. A translated German and Italian version is also available. In case of any deviations the English shall prevail over the German and Italian text.

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*«Biotechnology is the driver of innovation  
in medicine. Every second  
drug approved today originated from  
the laboratory of a biotech company.»*

