

Media release as of July 21, 2017

Interim Report of BB Biotech AG as of June 30, 2017

Tailwind for biotech investors

The half-year results confirm that BB Biotech has resumed its solid growth trajectory

The total return for BB Biotech shares in the second quarter stood at 4.2% in CHF, 1.6% in EUR and 9.0% in USD. Net Asset Value (NAV) rose by 3.2% in CHF and the resulting quarterly profit amounted to CHF 103 mn. This compares with the profit of CHF 36 mn reported for the second quarter of last year. Whereas BB Biotech ended the first half of 2016 with a loss, in the current year it recorded a profit for the period of CHF 478 mn. The takeover of Actelion by Johnson & Johnson marked the end of one of BB Biotech's most successful investments. Over the years BB Biotech earned more than CHF 750 mn from its investment in Actelion. Proceeds from the acquisition were used to increase BB Biotech's shareholdings in Alexion, Alder, Avexis, Esperion, Halozyme, Intra-Cellular, Neurocrine Biosciences and Radius Health. There was plenty of positive company news flow during the period under review, but uncertainty prevailed on the policymaking front, especially in Washington. The outcome of Congressional action on the new healthcare law is still uncertain. Consequently, temporary swings in volatility cannot be ruled out going forward.

Healthcare stocks outperformed the broad equity indices, with the MSCI Healthcare Index gaining 7.1% and the Nasdaq Biotechnology Index gaining 5.9% during the second quarter of 2017 (in USD). Local returns in the broader equity markets were also positive, ranging from 1.2% for the Euro Stoxx 600 (in EUR), to 3.1% for the S&P 500 (in USD), and 5.1% for the Swiss Performance Index SPI (in CHF).

Equity trends played out against a backdrop of currency shifts associated with the political and economic outlook. The US Federal Reserve Bank did take action on interest rates, the European political landscape stabilized with the French elections, and ramifications of Brexit (now called Brexodus) began to sink in. These and other factors drove the value of the US dollar down by more than 6% against the Euro and by more than 4% against the Swiss Franc, while Sterling strengthened modestly in the second quarter.

Healthcare stocks, including those in the drug space, were driven by corporate fundamentals, but also by continued chatter about the potential for US healthcare "repeal and replace legislation" - which was finally deferred once more as the Senate failed to move forward with the latest Republican bill. As the saga plays out, BB Biotech's prediction that US drug pricing policy changes are more likely to be evolutionary rather than revolutionary seems to be holding true so far.

BB Biotech Q2 2017 and H1 2017 performance

Total share return for BB Biotech in the second quarter of 2017 was 4.2% in CHF, 1.6% in Euro and 9.0% in USD, reflecting short-term currency fluctuations. The NAV gained 3.2% in CHF, 0.7% in EUR and 8.0% in USD. Consequently, second quarter net income amounted to CHF 103 mn, compared to CHF 36 mn for the same period in 2016.

Total share return for BB Biotech in the first half was 12.2% in CHF, 8.8% in EUR and 19.4% in USD, while total return for the NAV was 16.1% in CHF, 13.1% in EUR and 23.5% in USD. Consequently, H1 2017 net income amounted to CHF 478 mn, compared to a loss of CHF 1 170 mn for H1 2016.

BB Biotech's level of investment, which had been 106.8% at the beginning of the year and 109.5% at the end of the first quarter declined to a non-leveraged 100.1% by the end of Q2 2017.

These financial data demonstrate that the challenges of early 2016 have been overcome and that the company is back on a growth trajectory.



BB Biotech's portfolio delivered important milestones

Actelion's share price traded around the USD 280 per share take-over bid from Johnson & Johnson during the entire Q2 following the official announcement of the transaction in January 2017. Therefore, closure of the transaction in mid-June 2017 did not add much to the portfolio performance in Q2. But the transaction strengthened the cash position substantially. In addition, the granted dividend, which was paid out as Idorsia shares, got off to a promising start – trading well on the Swiss stock exchange. Actelion has been a substantial success for BB Biotech. Over the life time of the investment, BB Biotech achieved cumulative long term gains well above CHF 750 mn. The team can be patient in waiting for additional likely M&A activities within the biotechnology sector going forward.

The biotech sector continued to deliver important new products to the US market. In all, 23 new drugs were approved in the first six months of 2017, already surpassing the total number of drugs approved in 2016, which was a somewhat lean year. In BB Biotech's portfolio, a series of valuable and important products reached the US market during the second quarter of 2017:

- Tymlos (abaloparatide) from Radius Health, a human parathyroid hormone-related peptide analog, for the treatment of osteoporosis in post-menopausal women at high risk for fracture
- Ingrezza (valbenazine) from Neurocrine Biosciences, a VMAT2 inhibitor, for the treatment of tardive dyskinesia
- Zejula (niraparib) from Tesaro, a poly ADP-ribose polymerase inhibitor, for the treatment of recurrent ovarian cancer
- Kevzara (sarilumab) from Regeneron, an antibody targeting the interleukin-6 receptor, for the treatment of moderate and severely active rheumatoid arthritis

The Eli Lilly/Incyte JAK inhibitor – Olumiant (baracitinib), being developed for the treatment of rheumatoid arthritis, received an unexpected complete response letter of rejection from the FDA. Eli Lilly signaled their intention to work with FDA officials to clarify options ahead which they say range from re-filing an NDA to performing additional clinical trials. Olumiant has in the meantime been approved by the European agency and by the Japanese Ministry of Health, Labor and Welfare.

Recently approved products got off to promising commercial starts in the US. Biogen Idec, commercial partner for Ionis' Spinraza (Nusinersen) reported USD 47 mn in sales for the first quarter of Iaunch. Dupixent (Dupilumab) from Regeneron, approved in the first quarter of 2017, also appeared to enjoy strong uptake in the first three commercial months based on US prescription data.

Clinical trial results continue to influence valuations of the smaller and mid-sized portfolio companies. Ionis announced positive Phase III clinical trial results for Inotersen (IONIS-TTRRX) in patients with familial amyloid polyneuropathy (FAP). Inotersen demonstrated beneficial effects for both the modified Neuropathy Impairment Score and for the quality of life questionnaire. These results lifted Ionis' share price. The news read-through to Alnylam – expected to report data from an ongoing Phase III study for Patisiran treating hereditary ATTR amyloidosis – as investors anticipate success of the Patisiran program. While BB Biotech is looking forward to seeing the data, some investors are apparently assuming a better adverse event profile for Patisiran over Inotersen.

Celgene announced positive Phase III trial results for Ozanimod in patients with relapsing multiple sclerosis. Ozanimod, a selective sphingosine 1-phosphate 1 and 5 (S1P1/5) receptor modulator, demonstrated a reduced annual relapse rate compared to interferon beta-1a (Avonex). Celgene plans to submit a new drug application to the US FDA by end of 2017.

Alder reported initial Phase III data for eptinezumab, their monoclonal antibody inhibiting CGRP, for the prevention of frequent episodic migraine. While the trial met its primary endpoint, investors focused on the observed effect size for higher doses of the test medication and concluded the results don't quite measure up to those of competitors. In light of Alder's need to raise capital, the data comparison pushed its shares down in price significantly.

Improved capital markets sparked renewed fund-raising activities in smaller and midcap holdings. During the second quarter, six of the portfolio companies (Neurocrine, Alnylam, Agios, Avexis, Halozyme and Macrogenics)



raised a total of about USD 1.6 bn in new equity capital. This demonstrates the strength of capital market conviction in the future of biotech and mirrors BB Biotech's own optimism about these promising companies.

Portfolio changes

Thanks in large part to cash gains from the Actelion take-over by Johnson & Johnson, the second guarter of 2017 portfolio turnover was significantly above last year's average. Excluding the more than 8% change in the portfolio due to Actelion alone, portfolio adjustments of remaining positions were in line with the first quarter. BB Biotech did not invest in any new companies during the second quarter of 2017. Idorsia shares were received as a dividend in kind from the Actelion - Johnson & Johnson transaction. The remaining shares in Puma Biotechnology and in PTC Therapeutics were sold as both companies reached their valuation targets. Shareholdings in Alexion, Alder, Avexis, Esperion, Halozyme, Intra-Cellular, Neurocrine and Radius Health were increased during the second quarter. Further profits were taken in Novo Nordisk, Celgene, Regeneron, Ionis, Kite and Swedish Orphan Biovitrum positions.

Outlook

In the second half of 2017, BB Biotech expects continued US Congressional debate on healthcare legislation but also continues to believe that drug price policy shifts will be more evolutionary than revolutionary. Uncertainty remains, however, and while the financial community is now accustomed to Presidential tweets, the future of US healthcare cannot be predicted with precision – and therefore sporadic volatility should be anticipated. BB Biotech will continue to monitor discussions, activities and developments very closely. Despite US - and indeed global uncertainties regarding healthcare, BB Biotech's long-standing and successful process of selecting investments in companies which deliver novel drugs for unmet medical needs with a simultaneous focus on pharmaco-economic value and evolving pricing policies continues to be an approach which can deliver excellent returns to BB Biotech shareholders. Overall, the encouraging progress seen in biotechnology during the first half of 2017 should continue as portfolio companies move forward with their drug development programs, gain approvals of important new products, and continue to demonstrate commercial progress. BB Biotech's confidence and long-term commitment to the biotechnology sector remain very strong.

The complete interim report as at June 30, 2017 is available on www.bbbiotech.com

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Company profile

BB Biotech invests in companies in the fast growing market of biotechnology and is one of the world's largest investors in this sector. BB Biotech is listed in Switzerland, Germany and Italy. Its investments are focused on listed companies that are developing and commercializing novel medical treatments and cures. BB Biotech's investment selection process is guided by the fundamental research and analysis of physicians and molecular biologists. Its Board of Directors has many years of experience in industry and science.

This release contains forward-looking statements and expectations as well as assessments, beliefs and assumptions. Such statements are based on the current expectations of BB Biotech, its directors and officers, and are, therefore, subject to risks and uncertainties that may change over time. As actual developments may significantly differ, BB Biotech and its directors and officers accept no responsibility in that regard. All forwardlooking statements included in this release are made only as of the date of this release and BB Biotech and its directors and officers assume no obligation to update any forward-looking statements as a result of new information, future events or other factors.



Composition of BB Biotech's portfolio as of June 30, 2017

(in % of securities, rounded values)

Incyte	12.7%
Celgene	12.1%
Ionis Pharmaceuticals	10.8%
Radius Health	6.6%
Gilead	5.6%
Vertex Pharmaceuticals	5.5%
Alexion Pharmaceuticals	4.7%
Neurocrine Biosciences	4.6%
Agios Pharmaceuticals	4.2%
Novo Nordisk	4.0%
Tesaro	3.5%
Halozyme Therapeutics	3.0%
Alnylam Pharmaceuticals	2.8%
Regeneron Pharmaceuticals	2.5%
Sage Therapeutics	2.1%
Esperion Therapeutics	2.0%
Kite Pharma	1.9%
Juno Therapeutics	1.9%
Macrogenics	1.2%
Myovant Sciences	1.1%
AveXis	1.0%
Intercept Pharmaceuticals	0.9%
Swedish Orphan Biovitrum	0.8%
Intra-Cellular Therapies	0.8%
Five Prime Therapeutics	0.7%
Alder Biopharmaceuticals	0.6%
Probiodrug	0.6%
Prothena Corp.	0.5%
Idorsia	0.4%
Novavax	0.3%
Cidara Therapeutics	0.2%
Achillion Pharmaceuticals	0.2%
Radius Health warrants, 04/23/2018	0.1%
Radius Health warrants, 02/19/2019	0.1%
reduces recall in warrants, 02/15/2015	5.176
Total securities	CHF 3 332.6 mn
Other assets	CHF 26.5 mn
Other payables	CHF (30.0) mn
Total shareholders' equity	CHF 3 329.1 mn