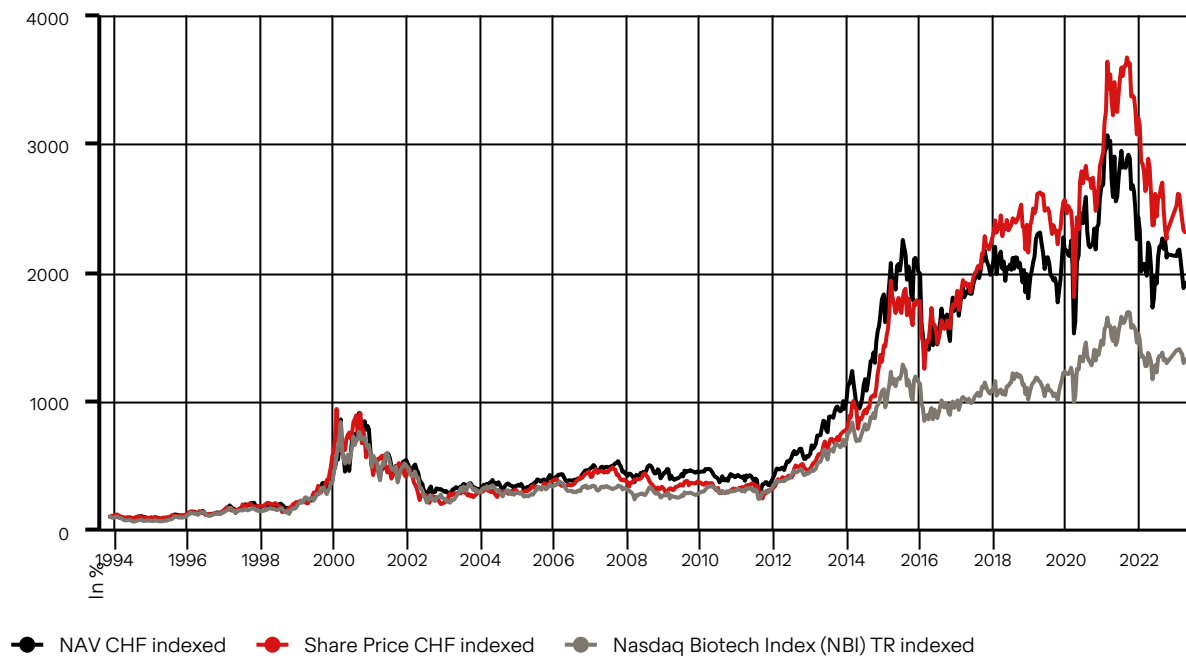


# Performance/Multi-year comparison

## Indexed performance since launch

### BB Biotech AG (SIX)-CHF



### Rolling performance

	SHARE	NAV	NBI TR
31.03.2022 – 31.03.2023	(18.4%)	(11.2%)	(1.1%)
31.03.2021 – 31.03.2022	(16.7%)	(23.6%)	(13.0%)
31.03.2020 – 31.03.2021	63.3%	67.9%	36.7%
29.03.2019 – 31.03.2020	(19.5%)	(26.6%)	(5.8%)
30.03.2018 – 29.03.2019	8.3%	11.7%	9.5%

### Annual performance

	SHARE	NAV	NBI TR
2022	(24.3%)	(11.0%)	(9.1%)
2021	8.3%	(11.5%)	3.0%
2020	19.3%	24.3%	15.8%
2019	18.5%	23.4%	23.0%
2018	(5.2%)	(14.5%)	(8.0%)

### Cumulated performance

31.03.2023

	SHARE	NAV	NBI TR
YTD	(4.4%)	(9.2%)	(2.7%)
1 year	(18.4%)	(11.2%)	(1.1%)
3 years	11.0%	13.9%	17.6%
5 years	(3.2%)	(6.6%)	21.3%
10 years	284%	162%	150%
since inception <sup>1)</sup>	2 213%	1 820%	1 223%

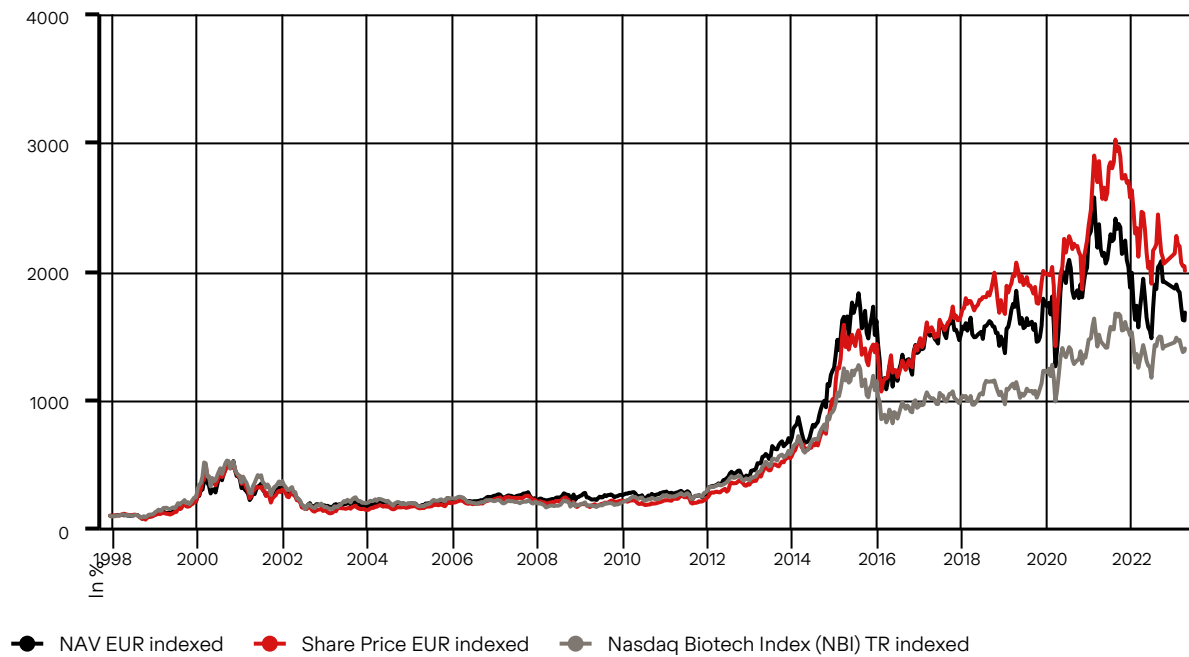
<sup>1</sup> 09.11.1993

### Annualized performance

31.03.2023

	SHARE	NAV	NBI TR
1 year	(18.4%)	(11.2%)	(1.1%)
3 years	3.5%	4.4%	5.5%
5 years	(0.6%)	(1.4%)	3.9%
10 years	14.4%	10.1%	9.6%
since inception <sup>1)</sup>	11.3%	10.6%	9.2%

<sup>1</sup> 09.11.1993

**BB BIOTECH AG (XETRA)-EUR****Rolling performance**

	SHARE	NAV	NBI TR
31.03.2022 – 31.03.2023	(17.4%)	(8.6%)	1.8%
31.03.2021 – 31.03.2022	(9.4%)	(17.2%)	(5.8%)
31.03.2020 – 31.03.2021	58.5%	60.7%	30.8%
29.03.2019 – 31.03.2020	(16.2%)	(22.6%)	(0.6%)
30.03.2018 – 29.03.2019	14.5%	17.8%	15.3%

**Annual performance**

	SHARE	NAV	NBI TR
2022	(19.0%)	(6.7%)	(4.5%)
2021	13.3%	(7.8%)	7.4%
2020	18.1%	24.8%	16.1%
2019	23.4%	28.1%	27.6%
2018	(2.2%)	(11.1%)	(4.3%)

**Cumulated performance**

31.03.2023

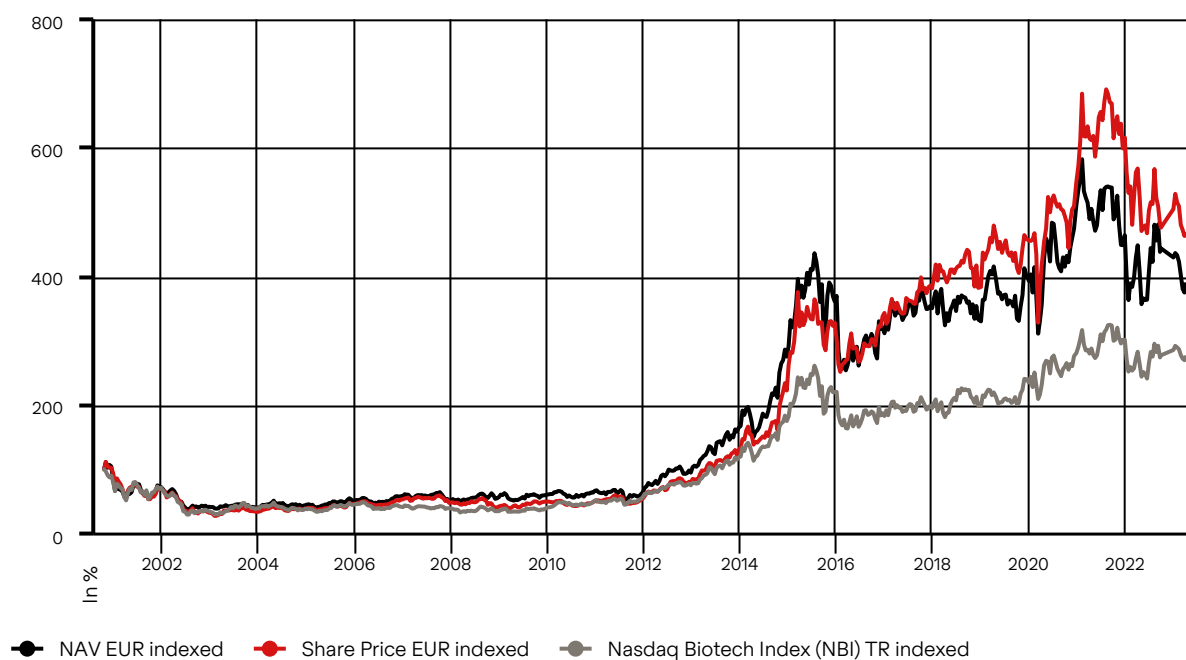
	SHARE	NAV	NBI TR
YTD	(6.8%)	(9.4%)	(3.3%)
1 year	(17.4%)	(8.6%)	1.8%
3 years	18.6%	21.7%	25.5%
5 years	13.8%	10.9%	43.7%
10 years	368%	222%	206%
since inception <sup>1)</sup>	1905%	1581%	1301%

<sup>1</sup> 10.12.1997**Annualized performance**

31.03.2023

	SHARE	NAV	NBI TR
1 year	(17.4%)	(8.6%)	1.8%
3 years	5.8%	6.8%	7.9%
5 years	2.6%	2.1%	7.5%
10 years	16.7%	12.4%	11.8%
since inception <sup>1)</sup>	12.6%	11.8%	11.0%

<sup>1</sup> 10.12.1997

**BB BIOTECH AG (MILAN)-EUR****Rolling performance**

	SHARE	NAV	NBI TR
31.03.2022 – 31.03.2023	(16.9%)	(8.6%)	1.8%
31.03.2021 – 31.03.2022	(9.1%)	(17.2%)	(5.8%)
31.03.2020 – 31.03.2021	57.6%	60.7%	30.8%
29.03.2019 – 31.03.2020	(14.7%)	(22.6%)	(0.6%)
30.03.2018 – 29.03.2019	13.0%	17.8%	15.3%

**Annual performance**

	SHARE	NAV	NBI TR
2022	(19.6%)	(6.7%)	(4.5%)
2021	13.0%	(7.8%)	7.4%
2020	19.7%	24.8%	16.1%
2019	22.6%	28.1%	27.6%
2018	(1.3%)	(11.1%)	(4.3%)

**Cumulated performance**

31.03.2023

	SHARE	NAV	NBI TR
YTD	(6.0%)	(9.4%)	(3.3%)
1 year	(16.9%)	(8.6%)	1.8%
3 years	18.9%	21.7%	25.5%
5 years	14.6%	10.9%	43.7%
10 years	369%	222%	206%
since inception <sup>1)</sup>	366%	288%	175%

<sup>1</sup> 19.10.2000**Annualized performance**

31.03.2023

	SHARE	NAV	NBI TR
1 year	(16.9%)	(8.6%)	1.8%
3 years	6.0%	6.8%	7.9%
5 years	2.8%	2.1%	7.5%
10 years	16.7%	12.4%	11.8%
since inception <sup>1)</sup>	7.1%	6.2%	4.6%

<sup>1</sup> 19.10.2000

## Multi-year comparison

	<b>31.03.2023</b>	<b>2022</b>	<b>2021</b>	<b>2020</b>	<b>2019</b>
Market capitalization at the end of the period (in CHF mn)	2 767.2	3 058.1	4 274.1	4 107.9	3 670.3
Net Asset Value at the end of the period (in CHF mn)	2 276.0	2 686.1	3 283.5	3 887.5	3 393.0
Number of shares (in mn)	55.4	55.4	55.4	55.4	55.4
Trading volume (in CHF mn)	220.9	1 482.0	2 101.0	2 315.6	2 004.2
Profit/(loss) (in CHF mn)	(253.9)	(357.8)	(404.8)	691.2	677.4
Closing price at the end of the period in CHF	49.95	55.20	77.15	74.15	66.25
Closing price (G) at the end of the period in EUR	50.00	56.70	74.05	68.00	61.40
Closing price (I) at the end of the period in EUR	50.30	56.50	74.40	68.50	61.00
Stock performance (incl. distributions) <sup>1)</sup>	(4.4%)	(24.3%)	8.3%	19.3%	18.5%
High/low share price in CHF	60.70/49.95	78.15/51.00	92.20/73.40	74.70/45.44	73.20/59.35
High/low share price in EUR	60.60/50.00	75.40/49.60	86.20/67.80	69.00/43.04	64.70/52.10
Premium/(discount) (annual average)	20.4%	20.5%	19.5%	9.2%	11.8%
Dividend in CHF	N.A.	2.85	3.85	3.60	3.40
Degree of investment (quarterly figures)	114.0%	112.8%	108.6%	106.8%	109.1%
Total Expense Ratio (TER) p.a. <sup>2)</sup>	1.28%	1.27%	1.22%	1.25%	1.26%

<sup>1)</sup> All figures in CHF %, total return-methodology

<sup>2)</sup> Based on market capitalization


# Shareholder letter

## Dear Shareholders


During the first quarter, capital market resilience was once more tested in the face of ongoing inflation concerns and persistent interest rate hikes by central banks. Towards the end of the quarter banking institutions, including some strongly associated with the biotechnology ecosystem, showed weaknesses which required remedial or rescue efforts. Small, cash-burning technology companies came under pressure consequently. The central banks' prompt response, including short-term liquidity injections, and the US Federal Deposit Insurance Corporation (FDIC) coverage of bank customers' cash deposits and facilitation of takeovers, averted further problems – at least for now.

Equity markets were generally positive, consequent to expectations of fewer and smaller interest rate increases. The S&P 500 gained 7.5% in USD and the Nasdaq Composite Index rose by 17.1% in USD, while the Euro Stoxx 50 rose by 14.3% in EUR. However, healthcare markets underperformed. The MSCI World Healthcare Index was down 1.4% in USD. The Nasdaq Biotechnology Index also declined by 1.9% in USD. A strong start to the year was followed by a sell off among smaller and mid-cap companies. Fund flows into biotechnology – a crucial indicator – remained negative.

Smaller biotechnology companies underperformed relative to others. The S&P Biotech Select Industry Index's (SPSIBI Index) total return of –8.7% in USD was worse than the –1.9% in USD return for the NBI Index, which mainly tracks larger biotechnology and pharmaceutical firms. While M&A activity picked up in the first quarter, there was little impact on the biotechnology sector. Merger and acquisition activities focused on product-oriented companies, such as Provention Bio, acquired by Sanofi for USD 3 bn, and Seagen, acquired by Pfizer for USD 43 bn.



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## BB Biotech AG's performance

Total return for BB Biotech shares for the first quarter 2023 was –4.4% in CHF and –6.8% in EUR (including the dividend payment of CHF 2.85 per share). Total return for the portfolio was –9.2% in CHF, –9.4% in EUR and –8.3% in USD, behind the NBI Index but in line with the S&P Biotech Select Industry Index. Consequently, the net loss for the first quarter of 2023 was CHF 254 mn compared to a net loss of CHF 300 mn for the same period in 2022.

## AGM 2023

All of the proposals of BB Biotech's Board of Directors were approved by shareholders at the annual general meeting on March 23, 2023. These included the proposal to pay a dividend of CHF 2.85 gross per share, resulting in a total of CHF 156 mn paid to shareholders of BB Biotech on March 29, 2023. Shareholders re-elected board members Dr. Erich Hunziker (Chairman), Dr. Clive Meanwell, Laura Hamill, Dr. Pearl Huang, Prof. Dr. Mads Krosgaard Thomsen and Dr. Thomas von Planta for another one-year term of office

## Continued high investment level

At the end of the first quarter, our investment level was close to our upper boundary at 114.0%. The continued high investment level reflects the management team's positive stance that many companies are attractively valued after the correction of the last two years in the biotech sector. The team will continue to work within the established and successful investment guidelines, such as investment levels of 95% to 115%. The dividend payment of CHF 156 mn used mostly cash from the Myovant takeover by Sumitomo Dainippon Pharma.

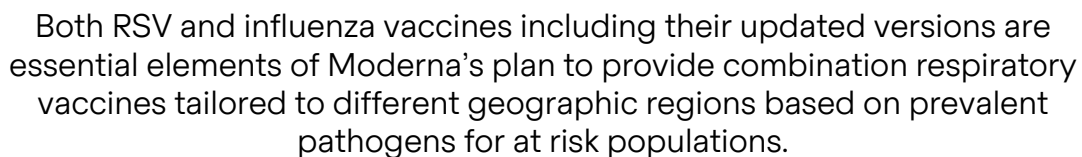
## Portfolio Update Q1 2023

A small number of portfolio adjustments were made during the first quarter. The Myovant Sumitomo Dainippon Pharma transaction was completed for USD 27 per share in cash. In addition, Kezar Life Sciences and Homology Medicines positions were closed. At the end of the quarter, BB Biotech's portfolio comprised 28 positions – concentrated further on profitable companies which now represent more than 1/3 of BB Biotech's equity. Well capitalized companies expected to reach sustainable profitability with their current balance sheet constitute more than 40% whereas smaller companies still needing capital constitute less than 20% of the portfolio.

## Portfolio milestones for the first quarter 2023

During the first quarter of 2023, many portfolio companies reported important progress without share price appreciation.

Moderna's RSV vaccine showed promising results in a Phase III trial of older adults. This vaccine is emerging as a potential best-in-class product among the current 3-horse race. In contrast, immunogenicity results from Moderna's P301 trial of an influenza vaccine in the Southern hemisphere reported mixed outcomes – superior for influenza A but inferior for influenza B strains. An updated version of mRNA-1010 potentially with improved efficacy against influenza B will imminently initiate its registrational P303 immunogenicity trial with a read-out expected by the end of the year. The Northern hemisphere P302 vaccine efficacy trial is continuing to accrue cases until the end of the season in May but a further confirmatory efficacy trial post accelerated approval may be required. Moderna continues to guide for both single vaccine products to be on the market in 2024 and combinations as of 2025. Both RSV and influenza vaccines including their updated versions are essential elements of Moderna's plan to provide combination respiratory vaccines tailored to different geographic regions based on prevalent pathogens for at risk populations.



Both RSV and influenza vaccines including their updated versions are essential elements of Moderna's plan to provide combination respiratory vaccines tailored to different geographic regions based on prevalent pathogens for at risk populations.

Ionis announced encouraging topline results from the Phase III NEURO-TTRansform study of eplontersen, a treatment for transthyretin amyloidosis with polyneuropathy (ATTRv-PN). Supported by Ionis's partnership with AstraZeneca, eplontersen could become a key revenue stream for Ionis, particularly if a TTR cardiomyopathy indication is obtained.

Intra-Cellular Therapies reported positive topline results for lumateperone (branded as Caplyta) monotherapy for major depressive episodes in patients with major depressive disorder and bipolar depression. Lumateperone improved Montgomery-Åsberg Depression Rating Scale (MADRS) scores by week 6. Intra-Cellular plans to discuss next steps with the US FDA, including the possibility of filing for a label expansion. Such expansion could broaden the eligible patient population and enable Caplyta growth.

In addition to clinical trials data, portfolio companies reported interactions with regulators:

- Incyte and MacroGenics received a surprising approval for Zynyz (retifanlimab) for metastatic or recurrent locally advanced merkel cell carcinoma (MCC) after an earlier FDA rejection.
- Ionis reported a positive FDA advisory committee vote (9-0) for potential accelerated approval of tofersen, an investigational treatment for amyotrophic lateral sclerosis (ALS) associated with mutations in the superoxide dismutase 1 gene. The FDA action date is April 25, 2023.
- Moderna earned two Breakthrough Therapy Designations: One for their investigational RSV vaccine candidate, and a second for their personalized mRNA cancer vaccine in combination with Keytruda for high-risk melanoma patients.
- Argenx's PDUFA date for subcutaneous efgartigimod was extended to June 20, 2023. The FDA needs more time to review additional data analyses submitted by the company.
- Incyte received a complete response letter from FDA for its extended-release Jakafi tablets. Incyte plans to discuss next steps with the FDA.

Business development and licensing deals continued as favorable alternatives to equity sources of capital for smaller-cap companies. In the first quarter, Moderna and Generation Bio announced a strategic collaboration to create non-viral genetic medicines. Generation Bio will receive USD 40 mn upfront and USD 36 mn equity investment. The companies will collaborate to advance in vivo immune cell targeting, sharing downstream economics. MacroGenics, facing valuation pressure in 2022 due to financing risk, recently raised substantial non-dilutive capital through milestone payments. These came from Provention Bio for Tzield's approval, a royalty deal for Tzield with DRI Healthcare Trust for USD 100 mn upfront, with potential for an additional USD 100 mn in milestones while retaining part of the product's royalty stream.

## Outlook for 2023

Central bank interest rate increases to tame inflation without triggering recession are set to continue – albeit at a slower pace. Despite interest rate uncertainty, the fundamental progress and quality of biotechnology players, including most of BB Biotech's portfolio holdings, remain positive.

The pharmaceutical industry is non-cyclical and may be less impacted by tightening of central bank balance sheets and the interest rate increases. For biotechnology companies – including those in the BB Biotech portfolio, the effects of rising interest rates are greater. We will follow closely the business steps of our investees – assiduous management of cash, and achievement of R&D and commercial milestones on time, with good results, all of which are particularly critical when equity valuations are depressed.

The US healthcare system continues to struggle with its high costs. Implementation of the Inflation Reduction Act (IRA) will gain attention in the fall of 2023 when the first ten drugs selected for discounting in 2026/27 will be published.

Attention is also focused on pharmacy benefit managers and the large managed care organizations – the so-called «middlemen» who profit from activities not always associated with value creation.



Despite a challenging start to the year, BB Biotech remains focused on value growth and is optimistic about fundamental progress achieved by innovative biotechnology firms in the large, mid-cap and small segments. We continue to believe that these firms are attractive investments; not only due to their currently depressed valuations but also because development, regulatory and commercialization milestones can boost shareholder returns. In the meantime, we expect all of our investee firms to manage cash carefully.

Looking ahead, we anticipate newsflow from our portfolio companies during the rest of 2023:

- Argenx expects Phase III results for efgartigimod in patients with chronic inflammatory demyelinating polyneuropathy (CIDP).
- Neurocrine expects Phase III results for crinecerfont in adults and children with congenital adrenal hyperplasia (CAH).
- Moderna will report results for the Northern hemisphere immunogenicity (P303) and final analysis for its vaccine efficacy (P302) trial for its influenza vaccine mRNA-1010.
- Sage and partner Biogen expect approval of zuranolone for major depression disorder in August.
- Alnylam expects approval of Onpattro (patisiran) for cardiomyopathy of ATTR amyloidosis in October.
- Ionis and partner AstraZeneca expect approval of eplontersen for polyneuropathy ATTR amyloidosis in December.

Valuation of small-cap and mid-cap segments of the biotech industry are attractive. In view of the pressure on larger companies to drive growth through external innovation, M&A and licensing are expected to remain as an important factor for overall biotech sector growth.

We thank you for your continued trust.

The Board of Directors of BB Biotech AG

**Dr. Erich Hunziker**

Chairman

**Laura Hamill**

Member

**Prof. Dr. Mads Krogsgaard Thomsen**

Member

**Dr. Clive Meanwell**

Vice-Chairman

**Dr. Pearl Huang**

Member

**Dr. Thomas von Planta**

Member

# Portfolio at a glance

Securities as at March 31, 2023

Company	Number of securities	Change since 31.12.2022	Local currency	Share price	Market value in CHF mn	In % of securities	In % of shareholders' equity	In % of company
Ionis Pharmaceuticals	9 430 000	(205 000)	USD	35.74	308.5	11.9%	13.6%	6.6%
Argenx SE	872 000	(20 503)	USD	372.58	297.4	11.5%	13.1%	1.6%
Vertex Pharmaceuticals	903 000	(27 523)	USD	315.07	260.4	10.0%	11.4%	0.4%
Neurocrine Biosciences	2 590 000	(140 000)	USD	101.22	240.0	9.3%	10.5%	2.7%
Moderna	1 475 000	(26 951)	USD	153.58	207.3	8.0%	9.1%	0.4%
Incyte	2 800 000	(91 077)	USD	72.27	185.2	7.1%	8.1%	1.3%
Intra-Cellular Therapies	3 215 000	(76 479)	USD	54.15	159.3	6.1%	7.0%	3.4%
Alnylam Pharmaceuticals	855 000	(35 000)	USD	200.32	156.8	6.0%	6.9%	0.7%
Sage Therapeutics	3 080 000	129 722	USD	41.96	118.3	4.6%	5.2%	5.2%
Revolution Medicines	4 675 000	(102 562)	USD	21.66	92.7	3.6%	4.1%	4.4%
Agius Pharmaceuticals	4 000 000	(30 792)	USD	22.97	84.1	3.2%	3.7%	7.2%
Macrogenics	9 579 963	650 000	USD	7.17	62.9	2.4%	2.8%	15.5%
Relay Therapeutics	4 100 000	(20 720)	USD	16.47	61.8	2.4%	2.7%	3.4%
Celldex Therapeutics	1 800 000	–	USD	35.98	59.3	2.3%	2.6%	3.8%
Arvinas	2 120 000	(16 412)	USD	27.32	53.0	2.0%	2.3%	4.0%
Exelixis	2 600 000	(54 500)	USD	19.41	46.2	1.8%	2.0%	0.8%
Crispr Therapeutics	880 000	(8 605)	USD	45.23	36.4	1.4%	1.6%	1.1%
Fate Therapeutics	4 839 779	–	USD	5.70	25.3	1.0%	1.1%	4.9%
Essa Pharma	7 879 583	–	USD	2.97	21.4	0.8%	0.9%	17.9%
Beam Therapeutics	693 121	–	USD	30.62	19.4	0.7%	0.9%	1.0%
Wave Life Sciences	4 494 458	–	USD	4.33	17.8	0.7%	0.8%	4.6%
Rivus Pharmaceuticals <sup>1)</sup>			USD		16.0	0.6%	0.7%	
Mersana Therapeutics	4 189 719	123 519	USD	4.11	15.8	0.6%	0.7%	3.9%
Scholar Rock Holding	2 132 725	–	USD	8.00	15.6	0.6%	0.7%	4.1%
Generation Bio Co.	3 608 280	–	USD	4.30	14.2	0.5%	0.6%	6.0%
Black Diamond Therapeutics	5 377 839	–	USD	1.89	9.3	0.4%	0.4%	14.7%
Esperion Therapeutics	4 194 064	–	USD	1.59	6.1	0.2%	0.3%	4.7%
Molecular Templates	11 192 003	–	USD	0.38	3.9	0.2%	0.2%	19.9%
Radius Health – Contingent Value Right	8 733 538	–	USD	0.00	0.0	0.0%	0.0%	
<b>Total securities</b>					<b>2 594.4</b>	<b>100.0%</b>	<b>114.0%</b>	
Other assets					1.0		0.0%	
Other payables					(319.4)		(14.0%)	
<b>Net Asset Value</b>					<b>2 276.0</b>		<b>100.0%</b>	

<sup>1)</sup> Unlisted company

Exchange rate as at 31.03.2023: USD/CHF: 0.9153