When genomics and proteomics converge, Immunovia will probably be snatched up

In addition to the usual comments you as the reader would expect from us in an update report post capital raise and presentation of long-term penetration target, we went further and asked ourselves: What is going to happen beyond the success of Immunovia's first launch of IMMray PanCan-d? And here is what we believe is going to happen to proteomics-based (Immunovia) and genomics-based (e.g. Exact Sciences, Grail, Guardant) technologies in cancer diagnostics:

- Proteomics eat Genomics for breakfast if the topic is VERY early detection
- There will be no single-tech winners
- Winner-take-all tactics will include a combination of both, building an "Appstore" of different techs answering to different clinical needs
- The resourceful US players, advanced in genomics-based tech, are far behind in proteomics-based tech. Immunovia is an apparent acquisition target by being at the forefront in the field and first to the US market, with competition likely several years behind.

By being at the forefront of proteomics-based technology, nearing launch of the first to market, outstandingly accurate blood-based test for early detection of pancreatic cancer, we see Immunovia as an apparent strategic target for acquisition. This is most likely to occur after successful launch of the pancreatic test, with reimbursement in place, commercial traction and clinical integration demonstrated. When Immunovia successfully executes on this plan, the achievement would serve as a clear validation of the company's platform technology and give leverage to the pipeline. In other words, it would position Immunovia for a US acquirer aiming to establish itself as a leading provider of oncology diagnostics.

We maintain the Outperform rating and raise the target price to 300 SEK per share, corresponding to an equity value of SEK 6.8 bn non-diluted, derived from a DCF valuation of the opportunity in pancreatic cancer. Our valuation considers some of the main risk, i.e. time to commercial adoption, as it is based on a fairly cautious revenue ramp-up prior to gradual reimbursement unlocking 2023-2024, followed by a trajectory in accordance with the communicated long-term market penetration target. The pipeline programs in lung cancer and rheumatoid arthritis provide further upside potential.

immunovia

OUTPERFORM

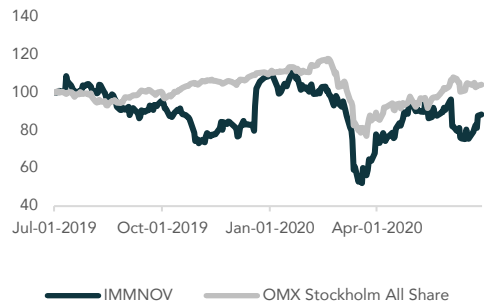
Update Report

Target price: SEK 300
Current price: SEK 156
Implied upside potential: 92%

Immunovia at a glance

Immunovia, a diagnostic company, is developing and commercializing highly accurate blood tests for the early detection of cancer and autoimmune diseases based on Immunovia's proprietary test platform called IMMray™. Tests are based on antibody biomarker microarray analysis using advanced machine-learning and bioinformatics to single-out a set of relevant biomarkers that indicate a certain disease. Thus, forming a unique "disease biomarker signature".

Share price development (index= Jul 01, 2019)



Key Data	As per 2020-06-30
Ticker	IMMNOV
Share price (close)	SEK 156
Free float	75.4%
Market cap	SEK 3 535m
Website	immunovia.com
Average daily volume (May 18-June 30)	SEK 1.5m

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Proteomics eat Genomics for breakfast if the topic is VERY early detection

Biotechnological advances are sparking innovation in the diagnostic field. The area focused on early detection of severe diseases such as cancer has in particular gained significant traction, with a high level of capital raises and M&A activity in recent years. The two main technological approaches that are currently under development are based on proteomics and/or genomics. The genomics-based technologies detect circulating tumor cells and/or particles shed by tumors. Most likely, these technologies will mainly add clinical value through the ability to characterize tumors and predict the most suitable treatment regimen. However, as tumors usually only shed detectable particles at later cancer stages, genomics-based technologies are inherently limited in their application for early detection with high accuracy.

In contrast, technologies based on proteomics (or immunoproteomics) such as Immunovia's can detect cancer at very early stages with high accuracy as they measure clinically relevant changes in proteins of the immune system response - the body's first warning signal against the cancer.

The two technologies detailed above are first and foremost complementary – not competing – as they answer to different clinical needs. Our diligence with interviews and research points toward a future diagnostic regimen including a combination of proteomics and genomics-based analyses to generate timely and correct diagnosis guiding appropriate treatments; adding to the imaging techniques that are necessary to determine the location and spread of the tumor.

Sweden has since the early 20th century held a world-class position in the proteomics field. Translating scientific breakthroughs into commercial uses, Immunovia is one of few current investment cases undoubtedly at the forefront in the field with a highly innovative and robust technology evolved from pioneering, long-standing translational cancer research from Lund University and CREATE Health. The IMMray technology is based on multiplex microarray analysis using sophisticated bioinformatics to define and identify the disease fingerprint that is highly specific to a particular disease. This stands out in sharp contrast to the relatively old-fashioned single-marker ELISA technology, which companies such as Biovica still base their solutions on; Hence, comparing Immunovia to this class of companies is equally competent as comparing a formula 1 car with a far less advanced vehicle. While a bicycle, for instance, surely has its purpose, one would never argue that it can do what a formula 1 car can, and the same logic and scientific understanding for the underlying technology should be applied when comparing investment cases.

The apps under development right now

The main players active in the field, receiving a lot of traction, are the US companies Exact Sciences, Guardant Health, Grail and Thrive Earlier Detection. These are very advanced in predominantly genomics-based technologies. Immunovia stands out in sharp contrast among these, being highly differentiated and attractively positioned

with its novel proteomics-based technology and know-how, and it will be first to market with a highly accurate blood-based test for early detection of pancreatic cancer. Even among companies developing technologies based on proteomics or a combination of both proteomics and genomics technologies, Immunovia is well-positioned by being at the forefront in both the proteomics field and in early detection of pancreatic cancer. Any competition is likely several years behind, and not viable in the foreseeable future.

Since the genomics and proteomics-based technologies are complementary and not competing, the US peers are more accurately viewed as potential partners or buyers of Immunovia's platform. All of them are investing significant resources to muscle up and broaden their offering in cancer diagnostics. In combination with the results of our diligence, supporting a future regimen including both proteomics and genomics analyses, one should thus forget about single-tech winners. The winner-take-all business tactics will be building an "Appstore" of different techs answering to different clinical needs, metaphorically speaking.

By being at the forefront of proteomics-based technology, nearing launch of the first to market, outstandingly accurate blood-based test for early detection of pancreatic cancer, we see Immunovia as an obvious strategic target for acquisition. This is most likely to occur upon successful launch of the pancreatic test, with reimbursement in place, commercial traction and clinical integration demonstrated. When Immunovia successfully executes on this plan, the achievement would serve as a clear validation of the company's platform technology and give leverage to the pipeline. In other words, it would position Immunovia for a resourceful US acquirer aiming to establish itself as a leading provider of oncology diagnostics.

Data miners such as Guardant Health and Immunovia to unlock hidden multibillon dollar value

We believe the recent USD 2bn valuation of Guardant Health genomic database[1] illustrates the significant value potential (from a pharma perspective) of the emerging diagnostic technological approaches, which will become synergistic once converging. Guardant is building a genomic database based on genomic and clinical data collected from advanced cancer patients before and after treatment; hence, providing information on the evolvement of tumors over time, response to treatment and development of resistance. This is naturally of great interest to biopharma companies, underpinned by their M&A activity in the field in recent years. Proteomics can add substantially to the characterization of tumors and response to treatment; for instance, proteomics has the potential to unlock information on intergroup differences among various population groups responding differently to treatment. As such, proteomics represents an important element to enable furthering of precision-based medicine, which is where pharmaceutical development is heading.

[1] New Guardant genomic database could be worth $2B, analysts say. MedTech Dive, June 24, 2020. https://www.medtechdive.com/news/new-guardant-genomic-database-could-be-worth-2b-analysts-say/580419/

On the long-term penetration target

We believe that the communicated long-term goal of 30% market penetration across the three defined risk groups (i.e. hereditary, early symptoms and newly onset diabetes) is reasonable - not off the chart- and achievable within a reasonable timeframe. We argue that the company is well-positioned for this, underpinned by the following facts:

- First-to-market with no competition in the foreseeable future.
- Best-in-class KOL network in pancreatic cancer set to drive guideline inclusion and clinical integration.
- Large prospective studies on track towards final readouts in 2022-2023 to support FDA approval and reimbursement coverage. Subject to satisfactory data and sufficient documentation, reimbursement coverage should be in place 2023-2024 for all initial target groups. IMMray-PanCan-d could very well start gaining reimbursement earlier before final readouts based on medical need, interim analyses, and KOL-network.
    - PanFAM-1 interim analysis H1 2021, final readout 2022
    - PanSYM-1: interim analysis H1 2021, final readout 2022
    - PanDIA-1: interim analysis H1 2021, final readout 2023

The technological risk with the pancreatic test should by now, since the outcome of the optimization study with the commercial signature, be deemed as eliminated. Firstly, the IMMray technology has been extensively developed for over a decade and a comprehensive amount of solid documentation consistently supports the robustness of the technology. Secondly, the pancreatic test has already proven its accuracy in thousands of tests including – and we cannot stress this enough – studies designed to best reflect the commercial environment, with testing situations similar or identical to the ongoing prospective studies. After rigorous development, fine tuning, and consistent, outstanding results demonstrating the technology's capacity in situations reflecting the commercial environment, the remaining verification and validation studies are merely confirmatory. Lastly, and further to our second point, the ongoing prospective studies are not binary in their outcome. Just like previous studies, they will provide information on the pancreatic test's diagnostic capabilities. With the technology's performance already demonstrated, the purpose of the prospective studies is rather to evaluate it in parameters, including clinical utility, that authorities and agencies evaluate as basis for regulatory approval and reimbursement. Given that we already know that the technology is robust and delivers outstandingly accurate results in pancreatic cancer, it is highly unlikely that results on diagnostic performance from the prospective studies would significantly deviate from previous figures. Furthermore, combined with the fact that there is essentially no standard procedure that can effectively detect the cancer at an early stage, it is highly likely that any significant improvement for the early detection of one of the world's deadliest cancer will be enough to prove clinical utility and be welcomed by the market.

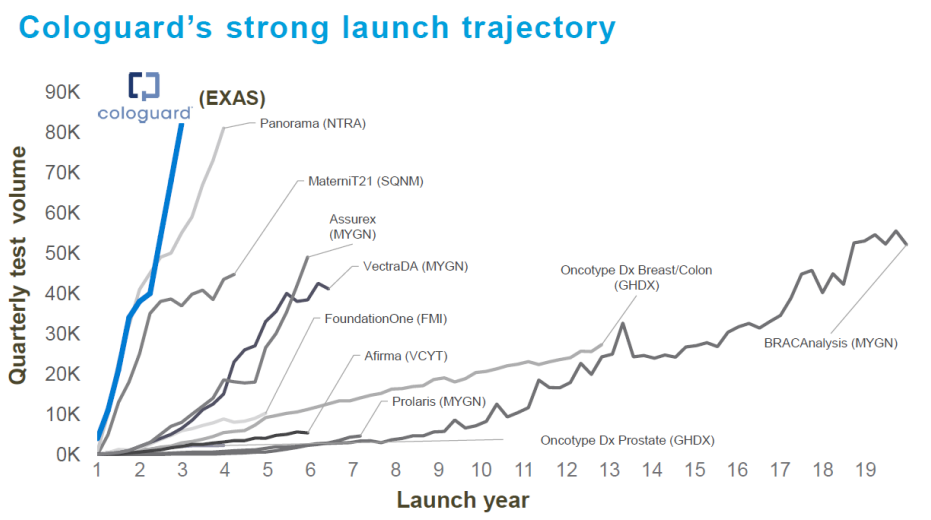
The main risk in this investment case is time to commercial adoption, which primarily depends on clinical integration and reimbursement. With the status detailed above, we can conclude that Immunovia is attractively positioned, and financed, to mitigate the commercial risk and successfully launch its pancreatic test. We believe that Immunovia's long-term market penetration target of 30% across the defined risk groups will

correspond to at least 70% of the market in the hereditary risk group, 30% of the early symptoms market, and 5% of the newly onset diabetes risk group in the US by 2030.

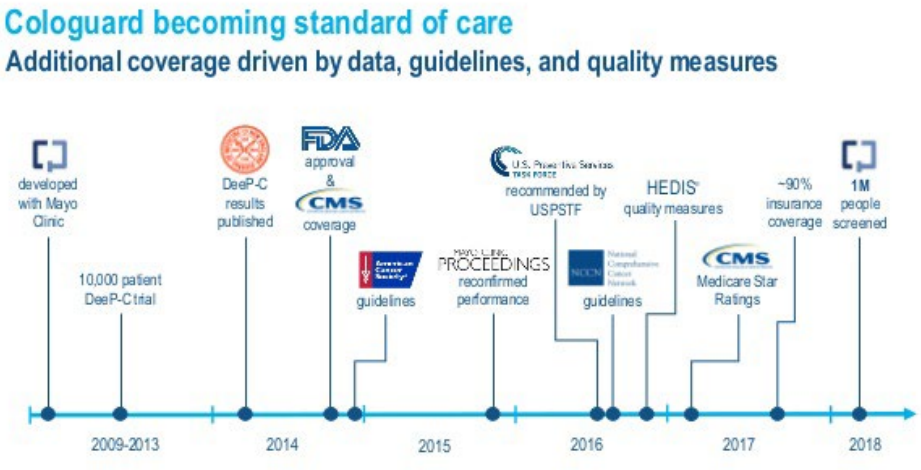
What to expect from the upcoming launch trajectory?

Exact Sciences' successful launch experience with Cologuard (launched late 2014) provides a useful context to Immunovia's path ahead and long-term penetration target. While colorectal cancer is a larger commercial opportunity than pancreatic cancer, the competitive landscape is fierce and expected to increase. Nevertheless, Exact Science has set a long-term market penetration target of 40%, which analysts expect that the company will hit by the end of 2030. With this perspective in mind, one could argue that Immunovia's long-term target in pancreatic cancer is quite moderate and certainly highly achievable within a reasonable timeframe, given that it is first-to-market with a highly accurate, blood-based test addressing a significant medical need in well-defined target markets, facing no viable competition in the foreseeable future.

Exact Sciences' launch experience with Cologuard



Source: Exact Sciences Corporate Presentation April 2017



Source: Exact Sciences Corporate Presentation Third Quarter 2018

Lung cancer program

On the back of results from the discovery study, Immunovia expands its lung cancer program and continues the iterative discovery study process by going into a study with a larger cohort of fresh lung cancer samples mirroring the commercial environment. These initial results must be sufficiently good enough to motivate further iteration of the biomarker signature. Otherwise, we do not believe that the company would invest further resources to pursue the lung cancer program.

We believe it is wise to not disclose data on diagnostic accuracy until the biomarker signature has been iterated, optimized, and demonstrated its capacity in larger cohorts reflecting the commercial setting. During early development, companies rarely disclose data on diagnostic performance. Why? Because in these early stages statistics do not give a fair view of the end results of the test. That is why further iterations are needed to optimize the algorithm and generate more solid, grounded data better reflecting the actual performance.

Importantly, the update on the lung cancer program further substantiates the potential of the IMMray technology platform to revolutionize detection of cancer in the early stages, where genomics-based technologies are not sensitive enough.

Valuation

Outperform rating and target price SEK 300

We maintain the Outperform rating and raise the target price to SEK 300 per share. Our target price is based on a DCF valuation of the opportunity in pancreatic cancer.

We forecast sales of SEK4.2 bn in 2030

In our financial outlook, we include US+Canada and Immunovia's prioritized EU regions[2]. Our forecast is based on the following assumptions concerning IMMray PanCan-d:

- Successful completion of the verification and validation studies according to the communicated timeline, followed by launch in the first countries in Q4 2020.
- According to guidance, we estimate a list price of USD 600 per test. We model a 5-20% discount which decreases over the forecast period in conjunction with gradual reimbursement unlocking during 2023-2024 for all initial target groups (hereditary, early symptoms and newly onset diabetes).
- Management is guiding for SEK 250-300m in revenue in 2022 based on self-pay sales, assuming 5% penetration of the hereditary market and approximately 1% for differential diagnosis of early symptoms. By 2024, management guides for sales of SEK 800-1,000m subject to insurance coverage, assuming ~20% penetration of the hereditary market, approximately 9% in early symptoms and initial sales contribution in the newly onset diabetes population (>50 years). With the 5-20% price discount applied, we estimate a slower revenue ramp-up compared to guidance. We assume guideline inclusion

[2] The Nordics, UK, Spain, Italy, Austria, Germany, Switzerland, Belgium, Netherlands, Luxembourg, France.

and reimbursement in 2023-2024, on the back of final results from prospective studies, triggering an accelerated market penetration rate and upward sales trajectory. The company has set a long-term goal of 30% market penetration across the defined risk groups, without specifying timing. We believe that this will correspond to the following market penetration rates in respective risk group by 2030:

- Hereditary risk group: 70% and 60% in the US+Canada and EU, respectively. This represents a very well-defined patient population of ~200,000 patients per year where pancreatic cancer screening is already established in the guidelines. In comparison, Oncotype Dx (Exact Sciences) has since launch 2011 achieved a 73% adoption rate in its breast cancer target population of 140,000 individuals per year, which is comparable to the hereditary pancreatic cancer population.
- Early symptoms group: 30% in the US+Canada, 20% in European countries.
- Newly onset diabetes: 5% in the US, 3% in the European countries. This is by far the largest target population.

- We assume a quick organizational build-up to effectively execute an accelerated commercialization strategy of IMMray PanCan-d.
- Gross margin through gradual economies of scale reaching 85% by 2028.
- We expect the company to raise an additional ~SEK300m in 2022 to fund the commercialization of PanCan-d, with additional funds required to advance the lung cancer and rheumatoid arthritis programs.

P&L (SEK m)

P&L (SEK million)	FY18A	FY19A	FY20E	FY21E	FY22E	FY23E	FY24E	FY25E	FY26E	FY27E	FY28E	FY29E	FY30E
Net sales	**1**	**1**	**2**	**81**	**170**	**475**	**805**	**1 376**	**2 094**	**2 736**	**3 226**	**3 765**	**4 168**
Sales growth (YoY)	*n/a*	*-24%*	*195%*	*3252%*	*111%*	*180%*	*69%*	*71%*	*52%*	*31%*	*18%*	*17%*	*11%*
COGS	0.0	0.0	(0)	(16)	(34)	(95)	(145)	(234)	(356)	(438)	(484)	(565)	(625)
Gross Profit	**1.1**	**0.8**	**2**	**64**	**136**	**380**	**660**	**1 142**	**1 738**	**2 298**	**2 742**	**3 201**	**3 543**
Gross margin	*100%*	*100%*	*80%*	*80%*	*80%*	*80%*	*82%*	*83%*	*83%*	*84%*	*85%*	*85%*	*85%*
Personnel costs	(45)	(55)	(100)	(145)	(190)	(240)	(290)	(345)	(400)	(450)	(500)	(550)	(588)
R&D expenses	(26)	(27)	(27)	(27)	(27)	(27)	(27)	(27)	(27)	(27)	(27)	(27)	(27)
Other operating costs	(66)	(79)	(73)	(93)	(133)	(173)	(183)	(203)	(233)	(373)	(450)	(540)	(620)
Total operating costs	**(137)**	**(160)**	**(200)**	**(265)**	**(350)**	**(440)**	**(500)**	**(575)**	**(660)**	**(850)**	**(977)**	**(1 117)**	**(1 235)**
Operating costs as % of Net Sales	*12734%*	*19662%*	*8320%*	*329%*	*206%*	*93%*	*62%*	*42%*	*32%*	*31%*	*30%*	*30%*	*30%*
EBITDA	**(136)**	**(159)**	**(198)**	**(201)**	**(214)**	**(60)**	**160**	**567**	**1 078**	**1 448**	**1 765**	**2 084**	**2 308**
EBITDA-margin	*n/m*	*n/m*	*n/m*	*n/m*	*n/m*	*n/m*	*20%*	*41%*	*51%*	*53%*	*55%*	*55%*	*55%*
Depreciation	(3)	(8)	(8)	(9)	(10)	(13)	(16)	(19)	(22)	(25)	(25)	(25)	(25)
Amortization	0	0	0	0	0	0	0	0	0	0	0	0	0
EBIT	**(139)**	**(168)**	**(206)**	**(210)**	**(224)**	**(73)**	**144**	**548**	**1 056**	**1 423**	**1 740**	**2 059**	**2 283**
EBIT-margin	*n/m*	*n/m*	*n/m*	*n/m*	*n/m*	*n/m*	*18%*	*40%*	*50%*	*52%*	*54%*	*55%*	*55%*
Net financial items	1	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
EBT	**(138)**	**(168)**	**(206)**	**(210)**	**(224)**	**(73)**	**144**	**548**	**1 056**	**1 423**	**1 740**	**2 059**	**2 283**
Tax	0	0	0	0	0	0	0	0	(223)	(307)	(376)	(445)	(493)
Net income	**(138)**	**(168)**	**(206)**	**(210)**	**(224)**	**(73)**	**144**	**548**	**832**	**1 116**	**1 364**	**1 614**	**1 790**
Profit margin	*n/m*	*n/m*	*n/m*	*n/m*	*n/m*	*n/m*	*18%*	*40%*	*40%*	*41%*	*42%*	*43%*	*43%*

Key metrics: P&L	FY18A	FY19A	FY20E	FY21E	FY22E	FY23E	FY24E	FY25E	FY26E	FY27E	FY28E	FY29E	FY30E
COGS increase	*0%*	*n/m*	*n/m*	*3252%*	*111%*	*180%*	*53%*	*61%*	*52%*	*23%*	*11%*	*17%*	*11%*
EPS (SEK)	*(6.1)*	*(7.4)*	*(9.1)*	*(9.3)*	*(9.9)*	*(3.2)*	*6.4*	*24.2*	*36.8*	*49.4*	*60.4*	*71.4*	*79.2*

Source: Vator Securities

The opportunity in pancreatic cancer indicates an equity value of SEK 6.8bn

We use a discount rate (WACC) of 12.3% and a 1.5% terminal growth rate (in line with GDP growth). The risk-free rate is 0%, based on the Swedish government ten-year bond, and the risk premium is 8.7%, based on a size and market risk premium of 1.5% and 7.2% respectively. Lastly, we use an equity beta value of 1.5. We have also included a net present value of the cumulative tax shield. With our estimates and DCF input variables, our DCF model indicates an equity value for Immunovia of approximately SEK 6.8bn, equivalent to SEK 300 per share (based on approximately 22.6 m outstanding shares)

Forecast from 2020 to 2030, with a 85% life cycle adjustment applied to the terminal value in 2031.

DCF valuation (SEK m)

DCF (SEK)	FY18A	FY19A	FY20E	FY21E	FY22E	FY23E	FY24E	FY25E	FY26E	FY27E	FY28E	FY29E	FY30E	FY31E
EBIT	(138.8)	(167.7)	(206)	(210)	(224)	(73)	144	548	1 056	1 423	1 740	2 059	2 283	2 430
Paid tax	0.0	0.0	0	0	0	0	0	0	223	307	376	445	493	525
NOPLAT	(138.8)	(167.7)	(206)	(210)	(224)	(73)	144	548	833	1 116	1 364	1 614	1 790	1 905
Adj. for non-cash items	2.8	8.4	8	9	10	13	16	19	22	25	25	25	25	25
Changes in NWC	(0.6)	(14.9)	(1)	10	12	45	49	86	109	104	87	98	86	69
Capex	37.3	36.6	9	10	11	14	18	21	24	28	28	28	28	28
Free cash flow	**(172.7)**	**(180.9)**	**(206)**	**(221)**	**(237)**	**(119)**	**93**	**460**	**722**	**1 010**	**1 275**	**1 514**	**1 701**	**16 979**
Discount factor (formula based)	-	-	1.06	1.19	1.34	1.50	1.69	1.89	2.13	2.39	2.68	3.01	3.38	3.38
Net Present Value - Free Cash Flows	**n/a**	**n/a**	**(195)**	**(185)**	**(177)**	**(80)**	**55**	**243**	**340**	**423**	**476**	**503**	**503**	**5 022**

	SEK million
Terminal value	**16 979**
Life cycle adjustment TV	85%
Adjusted Terminal value	**14 432**
Net Present Terminal Value	**4 269**
Net Present Value FCF	**1 906**
NPV of FCF incl. TV	**6 175**
Tax shield value, NPV	83
Interest bearing net debt	(528)
Equity Value	**6 786**
Number of shares, non-diluted, million	22.6
SEK/Share	**300**
Key metrics	
Terminal value/DCF	**69%**

Source: Vator Securities

There are upsides to our financial outlook and resulting target price, currently based on IMMray PanCan-d:

- Immunovia could very well start gaining reimbursement earlier on the back of interim analyses from the ongoing prospective studies, which consequently would trigger a quicker adoption in each risk group.
- Advancement of programs in lung cancer and rheumatoid arthritis toward development stage will trigger inclusion into our financial model.

The main risk to our forecast and target price is if reimbursed sales, and consequently adoption, would be delayed beyond 2024. However, as previously detailed, Immunovia is attractively positioned, and financed, to mitigate the commercial risk and successfully launch its pancreatic test.

Key personnel

Mats Grahn, CEO. Mats holds a MSc in Engineering Physics from Lund University, Sweden. He brings more than 25 years' experience in senior leading positions within the life science and diagnostics industry. He contributes with an extensive experience in business and strategic development, marketing, product management, product development and market access. Mats has a track record of leading international commercial operational organizations, restructuring of marketing organizations, integration of acquired companies as well as managing new start-ups. Much of his experience comes from leadership in multinational management teams and organizations in Scandinavia, Europe, USA and Asia. Previous positions include CVP Marketing Dako A/S, VP Product Management GE Healthcare, VP Marketing Amersham Biosciences, VP Laboratory Separations Pharmacia Biotech and VP Prevas Bioinformatics.

Rolf Ehrnström, Chief Scientific Officer. Rolf holds a MSc in biochemistry & biotechnology engineering from Royal Institute of Technology, Stockholm, Sweden. Rolf is the owner of Reomics AB and an independent partner at Ventac Partners. He has long experience of leading research and has been a Corporate Vice President R&D and Chief Scientific Officer at Dako/Agilent and Gyros AB. Rolf has also experience as a Science Director at Amersham Pharmacia Biotech.

Peter Schulz-Knappe, Chief Technology Officer. Peter holds a MD in medicine and a PhD in cellular biology from Heidelberg University, Germany. He has over 25 years' experience in biotechnology and proteomics, as serial entrepreneur, mainly as CSO and CTO of biotech companies. Founder of BioVisioN AG in Germany where he developed peptidomics workflows, and he was previously CSO at Proteome Sciences in UK (quantitative mass spectrometry) and CSO at Protagen in Germany (protein arrays for autoimmune diseases and immuno-oncology). He has led multiple clinical trials with international research organizations and pharma companies to develop novel diagnostics and companion diagnostics.

Hans Liljenborg, Chief Financial Officer. Hans Liljenborg has a degree as subject teacher in Business Administration and Mathematics from Lund University, Sweden. Hans has long experience as Financial Manager for growing, global medical technology companies and has been Finance Director at Physio Control Inc, Jolife AB and Finance Manager at Vivoline Medical AB, listed on Nasdaq First North in March 2015. He also operates an own accounting firm.

Laura Chirica, Chief Commercial Officer. Laura holds a PhD in Biochemistry from Umeå University, Sweden, a MSc in Biochemistry and a BSc in Biotechnology. With more than 15 years' experience in leading commercial positions within the life science and diagnostics industry, Laura contributes with an extensive experience in business, organization and strategic development, sales, strategic and tactical marketing, product management and product support. She has a track record of leading and restructuring international sales and marketing organizations, driving business development, champion integration of acquired companies as well as developing branding and market communication platforms.

Much of her experience comes from leadership in multinational management teams and organisations in Scandinavia, Europe, USA and Asia. Previous positions include VP Sales and Marketing Euro Diagnostica AB, Director Purification Technologies Europe Sartorius Stedim, Global Marketing Director Dako A/S, and Global Marketing Program Manager GE Healthcare.

Michael Pettigrew, Senior VP Sales North America. Michael has a Bachelor of Science in biology at Fairleigh Dickinson University. He brings over 30 years of experience and has focused his extensive global expertise in the management of marketing & sales, business and strategic account development, licensing, mergers & acquisition, and commercial technology platform development. While he was at Thermo Fisher Scientific, he managed large regional based sales teams (USA, Canada, Latin America, and South America) by providing sales, technical support, and customer support. Prior to Thermo Fisher Scientific, Michael was the Vice President of Corporate Development at Magellan Biosciences, where he was focused on M&A and licensing. Prior to that, Michael held positions at GE Healthcare (Vice President, Sales), Amersham (Vice President, Genomics), and Pharmacia (Director of Marketing, North America).

Hans Christian Pedersen, VP Business Development. Hans Christian holds a MSc in Molecular biology from University of Copenhagen, Denmark. He brings over 18 years of industry experience working with drug development, antibody development, breast cancer research, companion diagnostics development, IVD global marketing, scientific affairs and business development. Hans Christian has an extensive experience in both development and commercialization of diagnostic tests and has been involved in building and launching strategic partnerships with global pharma partners.

Linda Mellby, VP Research & Development. Linda received her PhD in Immunotechnology from Dept. of Immunotechnology within CREATE Health Translational Cancer Center, Lund University, in 2010, and a MSc in Chemistry Engineering in 2004. She has more than 15 years' experience of recombinant antibody microarray technology, the Immunovia platform. She has deep knowledge about platform features, technology development as well as clinical applications within oncoproteomics and autoimmunity. Linda has been one of the key researchers managing the development of the Immunovia antibody microarray platform for disease proteomics, conducting extensive work related to process optimizations, standardizations as well as clinical studies.

Lotta Blomgren, Operations Director. Lotta holds a MSc in Chemical Engineering from Lund University, Sweden. Lotta has more than 30 years' experience within the life science and diagnostics industry, whereof 15 years in leading positions. She contributes with extensive experience from leading manufacturing, quality control and logistics teams, as well as managing transfer of new products from development to commercial scale. Her track record includes strategic reorganizations of international manufacturing networks, managing people and project portfolios, as well as due diligence of potential acquirement of new companies and Contract Manufacturing (CMO).

Annika Andersson, QA/RA Director. Annika is a Biomedical Scientist from Malmö University. She has more than 25 years' experience within the life science and diagnostics industry, with the main focus on regulatory affairs and quality assurance of

in vitro diagnostic medical devices. Annika contributes with global experience within regulatory strategies and regulatory submissions of IVDs. Her track record includes leading successful regulatory approval processes of medical devices for IVD CE marking as well as IVD approvals in Canada, China, India, Japan, Korea, Mexico, Russia and 510(k) clearances in USA.

Board of Directors

Carl Borrebaeck, Chairman of the Board. Professor Carl Borrebaeck is a successful serial entrepreneur, having co-founded Immunovia AB, Senzagen AB (SENZA; Nasdaq First North), BioInvent International AB (BINV: Stockholm) and Alligator BioScience AB (ATORX; Nasdaq Stockholm). Prof. Borrebaeck is a 2009 recipient of the AkzoNobel Science Award and was awarded the 2012 Gold Medal from the Royal Academy of Engineering Sciences in recognition of his ground-breaking research regarding biomarkers.

In 2017 he was designated as the Biotech builder of the Year for his entrepreneurship. In addition, Prof. Borrebaeck is previously the Vice-President of Lund University, Sweden (responsible for its Innovation systems); and currently Director of CREATE Health, a Translational Cancer Center; and previously chairman of the Department of Immunotechnology. Carl Borrebaeck is also a founding mentor for NOME (Nordic Mentor Network for Entrepreneurship.

Ann-Christine Sundell, Director of the Board. Ann-Christine Sundell has a MSc in biochemistry and more than 30 years of experience from the medical device industry, she has held various global positions. For 10 years she served as president for Genetic Screening, one of five strategic business areas with over 1,500 employees worldwide within PerkinElmer, one of the world's largest Life Science companies.

Hans Johansson, Director of the Board. Hans Johansson has a MSc in Chemical Engineering and excessive experience and a wide network from his previous positions in Life Science and Diagnostics companies, lately as VP, Head of Companion Diagnostics at ThermoFisher Inc Speciality Diagnostics Group.

Hans Johansson was also a former VP of Global Marketing and Commercial Development within the same company but at the ImmunoDiagnostics division and earlier VP, Head of the Laboratory Business Unit at Pharmacia Biotechnology.

Hans Johansson has also been an active entrepreneur as CEO/Boardmember in the life science sector. Altogether, he has 30 years of experience from global business development and commercialisation of biotechnical and diagnostic innovations.

Christofer Sjögren, Director of the Board Christofer Sjögren has 15 years of experience in the financial industry as equity analysts in companies like Carnegie, Danske Bank (publ) and Deutsche Bank (publ) based in Stockholm. Christofer Sjögren has also been an Investor Relations consultant at Citigate Stockholm (formerly part of Huntsworth plc), and has been Vice President of Trelleborg AB (publ) for seven years as Head of Trelleborg Investor Relations.

Peter Høngaard Andersen, Director of the Board. Dr. Peter Høngaard Andersen has a B.Sc. in Chemistry, a M.Sc. in Biochemistry, is Doctor of Medicine and have excessive experience and a wide network from his previous positions in Life Science and the biotech industry. His extensive drug discovery and development experience from Pharma include; 14 years from Novo Nordisk in CNS, neuroendocrinology, women health, type 2 diabetes and 15 years at Lundbeck in CNS drug discovery and early development. Dr. Høngaard Andersen has been involved in the discovery and development of several drugs on the market (e.g., Norditropine Simplex, Victoza, Trintellix/Brintellix, Cipralex).

Dr. Høngaard Andersen has founded or co-founded several biotech companies e.g. Acadia Pharmaceuticals, Zealand Pharma, Glycom, Serendex, Epitherapeutics and Prexton Pharmaceuticals.

Dr. Høngaard Andersen was involved in Innovative Medicines Initiative (IMI) from the beginning in 2003 and was chairing the industry side of IMI from 2009 – 2014.

Mimmi Ekberg, Director of the Board. Mimmi Ekberg has almost 30 years of experience of from the pharmaceutical industry and 25 years within the oncology disease area. She has held different national and Nordic positions with experience of successful launches of specialist products. Mimmi has extensive strategic and operational experience within sales & marketing for different indications in the Oncology area. She has experience as Business Unit Manager from E. Merck, Amgen and currently serves as the Business Unit Manager Oncology Nordic at Celgene, with a special focus on pancreatic cancer. Mimmi is educated as an operating room nurse with various additional educations as Medical Oncology from Lund University, Clinical trials in Oncology Karolinska University hospital, and Executive Master of Business Administration from Stockholm University.

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I, Felicia Rittemar, the author of this report, certify that notwithstanding the existence of any such potential conflicts of interests referred to below, the views expressed in this report accurately reflect my personal view about the companies and securities covered in this report.

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