Thou shall reimburse the one who finds the silent killer

It may seem trivial to point out by now, but an accurate distinction between surveillance and screening is important in order to properly understand IMMray PanCan-d's intended use, clinical utility offer and the parameters of importance to access the viability of the test to be included in guidelines and gaining broad reimbursement. We still see confusion here.

Screening concerns high-incidence diseases and refers to testing of asymptomatic general population. Immunovia's PanCan-d cannot be judged in this context since pancreatic cancer is a low-incidence disease where even a perfect test with 100% sensitivity and 99% specificity would not qualify for screening. Surveillance, on the other hand, concerns low-incidence diseases such as pancreatic cancer and refers to testing of asymptomatic individuals at high risk of developing disease. Pancreatic cancer is called the "Silent Killer" because, well, it's silent with very late symptoms. When found with available modalities, it's unfortunately too late. Therefore, you have to keep the high-risk groups under surveillance. IMMray PanCan-d is being developed for this purpose, targeting niche risk groups.

There are currently no guidelines recommending surveillance of the symptomatic and NOD risk groups – hardly surprising given existing diagnostic modalities. New medical technologies drive the development of guidelines – not the other way around, and the IMMray PanCan-d minimally invasive simple blood test offers a credible potential to overcome the drawbacks of logistics, cost, invasiveness, and lower accuracy associated with current modalities that impedes routinely, early detection and expansion of guidelines to cover risk groups other than familial/hereditary.

IMMray PanCan-d will first be rolled out for surveillance in familial/hereditary risk group, where standard surveillance imaging is already covered today by both commercial payors and Medicare – according to regulatory consultants, KOLs and experts in pancreatic disease treatment and research in the US. According to the experts working with surveillance of the familial/hereditary risk patients, the landscape for coverage of surveillance for high-risk patients has evolved and improved considerably over the last 10+ year, which can be attributed to the inclusion of surveillance in CAPS guidelines. Payer pushback has decreased significantly over the 5 past years. As such, we believe that the path to coverage of PanCan-d is not a walk in the park, but the road is straightforward.

Based on all the noise that was created around the story about Immunovia, the opportunities in NOD and symptomatic risk groups have been entirely excluded in the pricing of the share, currently trading below the value of the initial opportunity in familial/hereditary risk group according to our DCF valuation. We see a significant short-term upside to today's pricing of the company as sales start approaches. We maintain the Outperform rating and a target price of SEK 300 per share, corresponding to an equity value of SEK 6.8bn non-diluted. Our target price is derived from a DCF valuation of the opportunity in pancreatic cancer. The pipeline programs in lung cancer and rheumatoid arthritis provide further upside potential.

OUTPERFORM

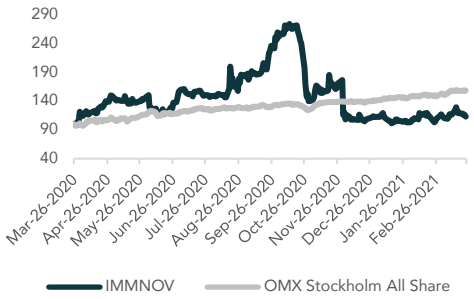
Update Report

Target price: SEK 300
Current price (at publishing): SEK 130
Implied upside potential: 130%

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= Mar 26, 2020)



Key Data	As per 2021-03-26
Ticker	IMMNOV
Share price (close)	SEK 123
Free float	75.8%
Market cap	SEK 2784m
Website	immunovia.com
Average daily volume (Feb 15 - Mar 26)	SEK 10.9m

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Surveillance of high risk individuals – not screening

It may seem trivial to point out by now, but an accurate distinction between surveillance and screening is important in order to properly understand IMMray PanCan-d's intended use, clinical utility offer and the parameters of importance to access the viability of the test to be included in guidelines and gaining broad reimbursement. We still see confusion here with an inaccurate categorization of IMMray PanCan-d as a 'screening test' and therefore misleading conclusions and comparisons to other tests limited to such setting.

Screening concerns high-incidence diseases and refers to testing of asymptomatic general population. Examples include mammography for breast cancer and colonoscopy for colorectal cancer. Immunovia's PanCan-d cannot be judged in this context since pancreatic cancer is a low-incidence disease where even a perfect test with 100% sensitivity and 99% specificity would not qualify for screening. Surveillance, on the other hand, concerns low-incidence diseases such as pancreatic cancer and refers to testing of asymptomatic individuals at high risk of developing disease. Pancreatic cancer is called the "Silent Killer" because it's silent. When found with available modalities, it's unfortunately too late. Therefore, you have to keep the high-risk groups under surveillance. IMMray PanCan-d is being developed for this purpose, targeting niche risk groups. On that note, clinical applicability, utility and parameters of importance for inclusion into guidelines and reimbursement naturally differs between screening and targeted surveillance tests, with implications on the comparability. One has to recognize this very clear distinction and as such the limitations on comparability when using the precedent and experience of tests for screening of high-incidence diseases, such as Exact Sciences' Cologuard, to draw conclusions on the commercialization and adoption of IMMray PanCan-d.

Understanding the verification study

The fact remains that what Immunovia has demonstrated to date is infinitely better than the non-existing alternatives and outstandingly accurate and competitive in relation to other techs being advanced towards the market. Before going deeper into the latest verification study, we need to address the study background and its purpose in the development context, which lays the foundation for accurate conclusions:

1. The verification and validation studies serve primarily regulatory purposes, i.e. for the Immunovia Dx Lab in the US to achieve CLIA-CAP accreditation so sales can begin.
2. The primary objective is not to, once again, in a smaller case-control study evaluate IMMray PanCan-d's diagnostic performance. Far more complex and larger studies, designed to reflect the commercial environment and powered for respective subgroups, have already demonstrated the test's high and clinically relevant accuracy. The Commercial Test Model Study (CTMS) is the most recent example where the outcome served as a highly significant technological de-risking event. In addition to the results from CTMS and Optimization study, 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. What will actually serve to further significantly reinforce IMMray PanCan-d's diagnostic capabilities and utility is satisfactory prospective data from the ongoing clinical studies, all with interim analyses due in 2021.

3. Building on our argumentation above, no additional case-control study will essentially add any significant value, bluntly stated, to the data dossier that the company has already generated during these years on diagnostic performance. What matters now is to advance the test into commercial phase - in a real commercial setting – and build the utility claims and data dossier with prospective data to support reimbursement unlocking and market penetration. The company will generate prospective data from ongoing trials and KOL investigator-driven studies that will commence during 2021 once the test reaches the market.

Immunovia's management face an obscure challenge: To Explain Themselves To People Who Are Determined To Misunderstand Them

If you put your mind into it, you can obviously choose to misunderstand everything. This is the obscure situation that Immunovia´s management faces. Let us address the most loved items to be misunderstood here:

The data derived from the verification study (familial/hereditary) has been used to re-calculate and draw definitive conclusion on distinctly different target groups (symptomatic and NOD risk groups):

With the context provided above, it is logical from a time-to-market and resource viewpoint that the verification study was primarily designed and powered for one subgroup, i.e. the cohort reflecting the familial/hereditary high-risk group that Immunovia will initially target in the launch. In line with previous studies, the company presented highly accurate results on diagnostic performance, derived from a cohort reflecting the relevant clinical setting. We emphasize that the company- naturally- uses clinically relevant figures in deriving the test's predictive capabilities, thus reflecting the performance in the actual clinical settings. Using other figures reported in literature to 're-calculate' is thus irrelevant and misleading. On that note, using the dataset from the verification study to re-calculate and derive the performance in the symptomatic and NOD risk groups is highly premature (due to insufficient cohort-specific sample size). Furthermore, using these 'quick-and-dirty calculations' as basis for conclusions on clinical utility and commercial outlook in these risk groups comes with substantial limitations. Extrapolating data in such an ill-scientific manner, not recognizing the limitations and ignoring the totality of cumulative data generated over the years that contrasts, will obviously conclude in a bearish outlook - for any life science company in development phase.

For the symptomatic and NOD high-risk groups, it is far more accurate for now to refer to the data presented from CTMS; recent details[1] on diagnostics discriminative power revealed an accuracy of differentiating early stage I/II pancreatic cancer (PDAC) from symptomatic controls with an ROC AUC value of 0.939, sensitivity of 80% at 95% specificity – highly clinically relevant and meeting the market requirements according to our research. Further cohort-specific data is being generated in the ongoing clinical trials, with interim analyses expected during 2021.

Quality Refinements Underway

The verification study did however identify an area needing improvement to boost the specificity, particularly when analysing symptomatic controls. Such quality refinements are standard in the development and commercialization of diagnostics. In general, the discriminative power of a diagnostic test, defined by sensitivity and specificity, is not a fixed parameter. These do vary during development and commercialization, due to differences in settings, becoming more familiar with the test procedure, and optimization. Since the company will not change the algorithm or the signature, the only thing that they can do is to refine any part or parts of 'the test analysis procedure', which is what we believe Immunovia is doing in the validation study. As the company has already demonstrated highly accurate performance across all various sample cohorts in far larger and more complex studies than the verification study, such as the CTMS, we believe that there is a solid rational and high likelihood that these accuracies will be achieved again.

Guidance on the path to broad reimbursement

IMMray PanCan-d is a novel diagnostic with the potential to radically re-define the standard diagnostic pathway for pancreatic cancer detection, increasing the chances of successful curative surgery and survival. The test is not an incremental improvement to existing modalities. This distinction deserves some attention, because the former project category reflecting IMMray PanCan-d implies by default that the commercial roadmap is uncharted, in the absence of clear precedents setting a clear track. However, it is this class of truly revolutionary medical innovations that offer outsized payoff.

There are currently no guidelines recommending surveillance of the symptomatic and NOD risk groups - hardly surprising given existing diagnostic modalities. New medical technologies drive the development of guidelines – not the other way around, and the IMMray PanCan-d minimally invasive simple blood test offers a credible potential to overcome the drawbacks of logistics, cost, invasiveness, and lower accuracy associated with current modalities that impedes routinely early detection and expansion of guidelines to cover risk groups other than familial/hereditary.

The reimbursement plan presented – developed since 2015 – includes for now primarily details concerning the familial/hereditary risk group, where usage will be anchored and subsequently expanded into other risk groups. The expertise and track record among

[1] Payam Delfani, Anders Carlsson, Thomas King, Randall Brand, Alexander Ney, Stephen P Pereira,et. al (2021). Commercial Test Model Study – A multicenter survey. Available at company website: link

management and BoD in launching new diagnostics combined with guidance from regulatory consultants, KOLs, and payor studies have formed the basis of the plan detailing an industry-recognized path and clear view on how to achieve a successful launch of IMMray PanCan-d:

- Apply for PLA code upon interim data from the PanFAM study. PLA code expected to be in place 6 months post PanFAM interim readout in 2021, i.e. during H1 2022. Immunovia has received payor feedback confirming that interim data would be sufficient to support the PLA code.
- CMS (Medicare) to be initially targeted to achieve Local Coverage Determination (LCD) of the PLA code in selected states. Achieving broad reimbursement is a gradual process, and it is standard to start with CMS since Medicare is a national public health plan (with broad population coverage), and decisions under CMS are usually followed by private payors. Local Medicare coverage expected to be in place in selected states in late 2022.
- Other commercial payors pursued in parallel. In late 2022, Immunovia expects that coverage is secured among 30-50% of payors in the US.
- Parallel to the activities above, Immunovia will launch KOL-investigator driven studies from 2021 onwards to support the dossier with evidence on clinical utility. These studies – following sector standard and typically required to achieve broad coverage – will add to the data on utility generated from the ongoing prospective trials. The accumulated evidence of clinical utility will be used to drive inclusion into accepted guidelines, such as the CAPS consortium (guidelines for surveillance of patients at increased risk of familial pancreatic cancer).

IMMray PanCan-d will initially be rolled out for surveillance in familial/hereditary risk group, where standard surveillance imaging is already covered today by both commercial payors and Medicare, according to regulatory consultants, KOLs, and experts in pancreatic disease treatment and research in the US. According to the experts working with surveillance of the familial/hereditary risk patients, the landscape for coverage of surveillance for high-risk patients has evolved and improved considerably over the last 10+ year, which can be attributed to the inclusion of surveillance in CAPS guidelines. Payer pushback has decreased significantly over the 5 past years. As such, it is concluded that the path to coverage of PanCan-d is not a walk in the park, but the road is actually straightforward.

Surveillance of familial/hereditary risk patients is currently limited to the population with a hereditary background from two or more first-degree relatives, about 100.000+ patients in the US. However, it is not unlikely that the introduction of a simple blood test, such as IMMray PanCan-d, would motivate expanding surveillance to include individuals with hereditary predisposition from at least one first-degree relative, still at significant risk of developing disease. This would increase the annual patient population in the US under surveillance to 1.5 million, a market expansion of 15x and as such an upside potential to the initial opportunity targeted.

Parallel to the launch in the familial/hereditary risk group, Immunovia will launch KOL investigator-driven trials for the symptomatic and NOD groups. These are medically

recognized high-risk groups, where there are ongoing efforts to develop the diagnostic process and where the potential to establish a new standard of practice is substantial. Evidence on clinical utility from the investigator-driven studies and ongoing prospective trials will be essential to form the basis to drive such commercial impact. As the commercial roadmap is not as straightforward as for surveillance of the familial/hereditary risk group presented above, it is likely that gradual reimbursement unlocking will start from 2023 onwards, in line with our previous guidance – when more substantial evidence on utility should have been gathered from ongoing prospective trials and investigator-driven studies. We assume that the commercial roll-out and reimbursement plan for these subgroups are being developed with same real-word grounded precision as the plan for the familial/hereditary group. We particularly look forward to understanding how the prevalence in the NOD-group will be enriched from 0.85% to 2-3% in order for surveillance to qualify for payor coverage. There are established methods available, and we believe that the investigator-driven studies will evaluate these further.

PanCan-d, Pay

Immunovia has conducted pricing analyses, most recent in 2019, with positive feedback on utility and a pricing range where in fact USD 600/test is in the lower range. This is also supported by previous analyses, including health-economic evaluations, supporting a price up to USD 1000/test. A price target of USD 600/test is therefore completely reasonable, probably in the lower range when comparing to the price and reimbursement level of novel diagnostic tests on the market. Exact Sciences' Cologuard cover for instance a much larger indication and is reimbursed at around USD 600 /test. Natera's and Adaptive Biotechnologies' tests are reimbursed at levels above USD 1000/test and the coming multi-cancer screening tests based on genomics are likely to be priced at a USD four-figure price/test. Finally, comparing IMMray PanCan-d with CA 19-9 is irrelevant as it is widely established that CA 19-9 alone is a poor predictor of pancreatic cancer and is not recommended for early detection (ASCO). As such, benchmarking the price and reimbursement level of IMMray PanCan-d against CA 19-9 is off industry and sector understanding. On par with industry standard, the sales price of USD 600/test will probably be discounted with a factor that will decrease as reimbursement unlocks.

In summary, Immunovia has presented a straightforward plan to unlock wide reimbursement in the familial/hereditary risk group. A pricing level of USD 600/test across all risk groups is highly reasonable and probably a cautious estimate as the company approaches commercial phase. Going forward, we expect more details on the reimbursement strategy for the symptomatic and NOD risk groups.

Valuation

Outperform rating and target price SEK 300

We maintain the Outperform rating and a target price of SEK 300 per share. Our target price is based on a DCF valuation of the opportunity in pancreatic cancer. We have made slight adjustments to our financial outlook.

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 validation study end of Q1 2021 followed by sales start in the US first.
- According to guidance, we estimate a list price of USD 600 per test. We model a 5-20% discount, on par with industry standard, decreasing over the forecast period in conjunction with gradual reimbursement unlocking. We expect reimbursement to gradually unlock from 2022 in the familial/hereditary risk group and initially from 2023 in the symptomatic and NOD risk group. We expect a slower ramp up of coverage in these latter groups.
- 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 surveillance is already established in the guidelines. In comparison, Oncotype Dx (Exact Sciences) has since launch 2011 exceeded a 70% 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 2029.
- We expect the company to raise an additional ~SEK 300m to fund the commercialization of PanCan-d, with additional funds required to advance the lung cancer and rheumatoid arthritis programs.

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

P&L (SEK m)

P&L (SEK million)	FY19A	FY20A	FY21E	FY22E	FY23E	FY24E	FY25E	FY26E	FY27E	FY28E	FY29E	FY30E	FY31E	FY32E
Net sales	**1**	**1**	**55**	**170**	**475**	**805**	**1 376**	**2 094**	**2 736**	**3 226**	**3 765**	**4 168**	**4 377**	**4 443**
Sales growth (YoY)	*n/a*	*21%*	*5518%*	*207%*	*180%*	*69%*	*71%*	*52%*	*31%*	*18%*	*17%*	*11%*	*5%*	*1%*
COGS	0.0	0.0	(11)	(34)	(95)	(161)	(248)	(356)	(465)	(516)	(565)	(625)	(657)	(666)
Gross Profit	**0.8**	**1.0**	**44**	**136**	**380**	**644**	**1 128**	**1 738**	**2 271**	**2 710**	**3 201**	**3 543**	**3 720**	**3 776**
Gross margin	*100%*	*100%*	*80%*	*80%*	*80%*	*80%*	*82%*	*83%*	*83%*	*84%*	*85%*	*85%*	*85%*	*85%*
Total operating costs	**(160)**	**(206)**	**(243)**	**(363)**	**(453)**	**(513)**	**(588)**	**(673)**	**(863)**	**(990)**	**(1 130)**	**(1 248)**	**(1 290)**	**(1 350)**
Operating costs as % of Net Sales	*n/m*	*n/m*	*439%*	*214%*	*95%*	*64%*	*43%*	*32%*	*32%*	*31%*	*30%*	*30%*	*29%*	*30%*
EBITDA	**(159)**	**(205)**	**(199)**	**(227)**	**(73)**	**131**	**540**	**1 065**	**1 408**	**1 720**	**2 071**	**2 295**	**2 430**	**2 426**
EBITDA-margin	*n/m*	*n/m*	*n/m*	*n/m*	*n/m*	*16%*	*39%*	*51%*	*51%*	*53%*	*55%*	*55%*	*56%*	*55%*
EBIT	**(168)**	**(214)**	**(209)**	**(241)**	**(90)**	**111**	**518**	**1 041**	**1 383**	**1 694**	**2 044**	**2 268**	**2 403**	**2 398**
EBIT-margin	*n/m*	*n/m*	*n/m*	*n/m*	*n/m*	*14%*	*38%*	*50%*	*51%*	*53%*	*54%*	*54%*	*55%*	*54%*
Net income	**(168)**	**(226)**	**(220)**	**(241)**	**(90)**	**111**	**518**	**857**	**1 084**	**1 328**	**1 603**	**1 778**	**1 884**	**1 880**
Profit margin	*n/m*	*n/m*	*n/m*	*n/m*	*n/m*	*14%*	*38%*	*41%*	*40%*	*41%*	*43%*	*43%*	*43%*	*42%*

Key metrics: P&L	FY19A	FY20A	FY21E	FY22E	FY23E	FY24E	FY25E	FY26E	FY27E	FY28E	FY29E	FY30E	FY31E	FY32E
COGS increase	*n/m*	*n/m*	*n/m*	*207%*	*180%*	*69%*	*54%*	*44%*	*31%*	*11%*	*9%*	*11%*	*5%*	*1%*
EPS (SEK)	*(7.4)*	*(10.0)*	*(9.7)*	*(10.7)*	*(4.0)*	*4.9*	*22.9*	*37.9*	*47.9*	*58.7*	*70.8*	*78.6*	*83.2*	*83.1*

Source: Vator Securities

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

We use a discount rate (WACC) of 13.2% 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 9.4%, based on a size and market risk premium of 1.8% and 7.6% 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 2021 to 2032, with a 85% life cycle adjustment applied to the terminal value in 2032.

DCF valuation (SEK m)

DCF (SEK)	FY19A	FY20A	FY21E	FY22E	FY23E	FY24E	FY25E	FY26E	FY27E	FY28E	FY29E	FY30E	FY31E	FY32E
EBIT	(167.7)	(214.4)	(209)	(241)	(90)	111	518	1 041	1 383	1 694	2 044	2 268	2 403	2 398
Paid tax	0.0	0.0	0	0	0	0	0	184	299	366	442	490	519	518
NOPLAT	(167.7)	(214.4)	(209)	(241)	(90)	111	518	857	1 084	1 328	1 603	1 778	1 884	1 880
Adj. for non-cash items	8.4	9.8	10	14	17	20	22	23	25	26	26	27	27	28
Changes in NWC	(14.9)	(4.4)	5	13	36	49	81	113	119	85	96	83	63	52
Capex	36.6	47.5	30	30	30	30	30	30	30	28	29	29	30	31
Free cash flow	**(180.9)**	**(247.7)**	**(234)**	**(270)**	**(139)**	**51**	**429**	**737**	**960**	**1 241**	**1 504**	**1 693**	**1 818**	**15 601**
Discount factor (formula based)	-	-	1.06	1.20	1.36	1.54	1.75	1.98	2.24	2.53	2.87	3.25	3.68	3.68
Net Present Value - Free Cash Flows	**n/a**	**n/a**	**(220)**	**(225)**	**(102)**	**33**	**246**	**373**	**429**	**490**	**524**	**521**	**495**	**4 244**

	SEK million
Terminal value	**15 601**
Life cycle adjustment TV	85%
Adjusted Terminal value	**13 261**
Net Present Terminal Value	**3 607**
Net Present Value FCF	**2 563**
NPV of FCF incl. TV	**6 170**
Tax shield value, NPV	100
Interest bearing net debt	(528)
Equity Value	**6 798**
Number of shares, non-diluted, million	22.6
SEK/Share	**300**
Key metrics	
Terminal value/DCF	**58%**

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 unlocking reimbursement earlier on the back of interim analyses from the ongoing prospective studies, which consequently would trigger a quicker adoption in each risk group.
- Expansion of the familial/hereditary risk group to include surveillance of individuals with hereditary predisposition from at least one first-degree relative, still at significant risk of developing disease. This would increase the annual patient population in the US under surveillance to 1.5 million, a market expansion of 15x and as such an upside potential to the initial opportunity targeted.
- 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 gradual reimbursement unlocking, and consequently adoption, would develop slower over the forecast period. However, as previously detailed, Immunovia is attractively positioned to mitigate the commercial risk and successfully launch its pancreatic test.

Key personnel

Patrik Dahlen, Chief Executive Officer. Patrik holds a MSc in Biochemistry from Åbo Akademi University and a PhD in Biochemistry from Turku University. He brings over 30 years of senior level experience as an executive in the life science and diagnostics industry. Patrik contributes with broad international experience in Europe and the US with substantial diagnostic and international industry expertise. As Chief Executive Officer of Dako, Patrik, carried out a major strategic repositioning of the company as a leading supplier of cancer diagnostics. As President of Life Sciences at the American company Perkin Elmer, Patrik was instrumental in building the company's diagnostic business with a niche focus on diagnostic systems for neonatal and prenatal screening. He has led organizations ranging from 10 to 2000 people based in Finland, Denmark, UK and USA and has considerable public company experience. Additional experience includes CEO, SSI Diagnostic, Denmark, CEO, Immunodiagnostic Systems (IDS), UK; CEO NeuroSearch, Denmark.

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.

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 Laura's 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 of Strategy & 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), Alligator BioScience AB (ATORX; Nasdaq Stockholm) and PainDrainer AB. 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. He has over 350 publication within life science and cancer research.

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 founder and 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.

Mats Grahn, Director of the Board. Mats holds a MSc in Engineering Physics from Lund University, Sweden. He brings more than 25 years experiences 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.

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 where 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/Board member in the life science sector. Altogether, he has 30 years of experience from global business development and commercialization 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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