EDISON

RhoVac

Company outlook

Phase IIb BRaVac study results in H122

Pharma & biotech

After months of industry-wide turbulence due to the COVID-19 pandemic, RhoVac has emerged with a flurry of positive news. In July 2021, the Safety Monitoring Committee gave the green light to continue the lead Phase IIb trial investigating the RV001 cancer vaccine in prostate cancer patients. Patient recruitment was finalised in September 2021, which means the trial is now in its final months, with top-line data expected in H122. Most recently, RhoVac announced that it had retained an international investment bank to prepare for a potential transaction or partnership deal if the data are positive, a strategy which management has consistently communicated since the start of the trial. Our valuation is higher at SEK1.62bn or SEK84.9/share (versus SEK68.5/share previously), mainly due to an increased probability of success.

Year end	Revenue (SEKm)	PBT* (SEKm)	EPS* (SEK)	DPS (SEK)	P/E (x)	Yield (%)
12/19	6.0	(36.1)	(2.33)	0.0	N/A	N/A
12/20	6.0	(46.9)	(2.06)	0.0	N/A	N/A
12/21e	11.0	(38.7)	(1.63)	0.0	N/A	N/A
12/22e	5.9	(38.9)	(1.64)	0.0	N/A	N/A

Note: *PBT and EPS are normalised, excluding amortisation of acquired intangibles and exceptional items.

Key catalyst next year

RhoVac's Phase IIb BRaVac trial has been fully enrolled since the end of September 2021. While the COVID-19 pandemic caused a modest delay, the existing budget is still sufficient until readout. Key results after the treatment phase are expected in H122, while 12-month follow-up data should be ready 12 months later. Although the ongoing trial investigating RV001 is in a fairly narrow indication, as we explain below, the read across potential to other cancer types is significant, as the target, RhoC protein, is tissue-agnostic, but crucial for the metastatic process.

Aiming for shareholder reward in 2022

Management has consistently communicated that its strategy is to develop RV001 to proof-of-concept stage before securing a partnership agreement or sale. In other words, if the data are promising, the goal is to seek some form of reward for shareholders. To this end, RhoVac announced that it had retained an international investment bank (Stifel Nicolaus) to help prepare for the transaction.

Valuation: SEK1.62bn or SEK84.9/share

Our RhoVac valuation is higher at SEK1.62bn or SEK84.9/share due to increased success probability and rolling the model forward, which was partially offset by a lower cash position (SEK58.0m at end-H121). We increase our probability of success to 20% from 15%. This is based on the Safety Monitoring Committee successfully completing its review in July 2021 and the fact that the trial is now fully recruited. So, at least from a safety and execution perspective, the risk has been resolved. A positive outcome from the BRaVac trial would lead us to increase the probability further to at least 40% (please see our sensitivity analysis of the valuation in the relevant section below).

14 October 2021

Price	**SEK27.6**
Market cap	**SEK525m**
Net cash (SEKm) at end-H121	58.0
Shares in issue	19.0m
Free float	85%
Code	RHOVAC
Primary exchange	Spotlight Stockholm
Secondary exchange	N/A

Share price performance

%	1m	3m	12m
Abs	49.2	51.5	51.5
Rel (local)	54.6	55.4	18.3

52-week high/low SEK29.55 SEK16.44

Business description

RhoVac is an immunotherapy company listed on the Spotlight stock market in Sweden, with a 100%-owned subsidiary in Denmark. It is developing a peptide-based immunotherapy, RV001, which aims to train the immune system to specifically target cancer cells with metastatic potential. This is a novel approach that could have utility across a range of cancer settings.

Next events

Phase IIb BRaVac study results	H122
Updates on partnering process	H121/2022

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Edison profile page

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Outlook: On the home straight

RV001: Tissue-agnostic cancer immunotherapy…

RhoVac is an immunotherapy company listed on the Spotlight exchange in Stockholm, Sweden. Its technology involves the use of immunotherapy to activate T-cells against the protein RhoC for the treatment or prevention of metastasis. The lead product, RV001, contains a 20 amino acid peptide fraction of the RhoC protein, which is used as a tissue-agnostic cancer immunotherapy. RhoC is a promising target since it is overexpressed in cancer cells with metastatic potential compared with healthy cells across multiple cancer types.

…with potential to prevent metastasis

RV001 is expected to prevent or limit metastasis by activating T-cells against cells with metastatic potential. This preventive concept differentiates RhoVac from most of the other drug developers in oncology. The treatment of metastatic cancer remains a significant unmet need. The metastatic cascade is generally believed to be 'undruggable' using traditional small molecule drugs or antibodies. Therefore, the idea of preventing or limiting metastasis through T-cell activation is an attractive one.

A comprehensive third-party review article on the RhoC target was published in July 2019 for the first time to our knowledge (Thomas et al). In cancer, RhoC is responsible for enhanced migration, invasion and metastasis. We reviewed this article in detail in our January 2020 report.

Tackling 'watchful waiting' approach in prostate cancer

RV001 is positioned to target prostate cancer patients with localised disease who have relapsed after treatment with curative intent (ie radical prostatectomy or radiotherapy). A relapse in these patients is known as biochemical recurrence/biochemical failure. Practically the only approach currently used for these patients is 'watchful waiting'. As an example, the FDA has agreed that RhoVac can use placebo in the control arm, a sign that the regulator agrees there is no other option than just waiting. Should there be a viable intervention, it would be unethical to use placebo and RhoVac would have been asked to use standard-of-care treatment as the control instead.

As a result, in this specific patient population, RV001 would have no competition. In addition, such a 'wait and see' strategy is stressful for patients, who know that there is an active malignant process ongoing, yet nothing can be done. Furthermore, if proof-of-concept could be obtained for this patient group, we believe it is highly likely that RV001 could also be developed for other stages of prostate cancer and even other types of cancer, although this is not included in our valuation.

If data positive, aiming for shareholder reward in 2022

The ongoing lead study BRaVac is a double-blind, placebo-controlled Phase IIb study (at least 180 patients) evaluating RV001 in patients (men) with biochemical recurrence following radical prostatectomy or radiotherapy. Since the end of September 2021, RhoVac's Phase IIb BRaVac trial has been fully enrolled. While the COVID-19 pandemic caused a modest delay, the existing budget is still sufficient until readout, expected in H122. The primary endpoint is time to prostate specific antigen (PSA) progression, defined as the time from randomisation to the doubling of PSA from baseline value. Key results after the treatment phase are expected in H122, while 12-month follow-up data should be ready 12 months later. Management's current strategy is to develop RV001 to proof-of-concept stage before securing a partnership agreement or sale, which could generate returns for shareholders. In other words, if the data are promising, the goal is to seek some form of reward for shareholders (a licensing deal or M&A). To this end, RhoVac announced that it had retained Stifel Nicolaus.

Phase I/II study three-year follow-up results

The currently ongoing Phase IIb BRaVac trial builds on the Phase I/II study, which included 22 patients who had previously undergone radical prostatectomy. These patients received injections of RV001 subcutaneously for a total of 30 weeks.

One-year follow-up

The one-year follow up results after the treatment phase were published in the *Journal for ImmunoTherapy of Cancer* (JITC) in November 2020. Of the 21 evaluable patients, 18 (86%) had shown a significant treatment-related immunological response. In all 86% of patients, a robust CD4+ T-cell response was observed, while a CD8+ response was observed in one patient (1/21 or 5%). These immunological effects were durable, with responses detectable for at least 10 months post vaccination. There is an ongoing debate in the scientific community about the extent to which CD4+ and CD8+ are involved in the anti-cancer response. The vaccination induces memory effector CD4+ cells, which determine the longevity of the immune response. In addition, the authors of the article published in the JITC in November argued that CD4+ T-cells are also:

- crucial for CD8+ T-cell activation and expansion;
- responsible for the generation and maintenance of CD8+ T-cell memory; and
- they also display a range of antitumoral effects, such as secretion of tumour necrosis factor and interferon-γ and can direct CD4+ cell cytotoxicity.

Another insight from this trial involved so-called prostate-specific antigen (PSA) doubling time – the time it takes for the PSA level to double versus pre-study levels. PSA doubling time is considered an effective surrogate endpoint for a clinical effect in prostate cancer. Despite the trial not being designed to investigate a clinical response, PSA levels were monitored throughout the course of the Phase I/II study. Only two patients had measurable levels of PSA at the base line, so PSA doubling is not evaluable in other patients. The investigators noticed that in these two patients, PSA doubling time increased during the course of the study (in one patient from 1.3 to 2.1 years and in the second patient from 1.95 to 3.8 years). This would imply a clinical response to treatment. Although the results from these two patients are anecdotal (only two cases), the fact that both patients had delayed progression is very encouraging, in our view.

Three-year follow-up: So far, so good

The most recent update from this study was published in October 2021 and included three-year follow-up results. Of those 21 patients included in the previous analysis, 19 agreed to undergo checks three years after the end of the treatment with RV001. None of these 19 patients demonstrated a substantial increase in their PSA levels, nor they were subsequently treated with other anticancer therapies. By end of the three-year follow-up, only three of those 19 patients had a measurable level of PSA. The patients with a measurable level of PSA also had a longer PSA doubling time, which points to slower disease progression. By the time the press release was published, immune response was assessed in 15 out of 19 patients and all but one patient still had RhoC specific immunity after three years (CD4+ or CD8+ not specified).

Our view

The caveats with the study are the same as with all Phase I stage trials, ie no placebo control and a small sample. However, there are a couple of key takeaways. The immune response to the RV001 vaccination is long-lasting in a large majority of patients. Even after three years, a specific immune response against RV001 peptides was seen. The most intriguing finding, however, is prolongation of PSA doubling time in the three patients who had measurable PSA at the beginning (while the other patients did not worsen). In other words, the malignant process that was accelerating, slowed down in these patients. In the ongoing Phase IIb BRaVac trial, the inclusion criteria are designed to

recruit patients with measurable PSA levels at the base line. A clearer picture on PSA doubling time will come from this trial, which is powered to show this effect as the primary endpoint.

Phase IIb controlled trial in Europe and US

Following the positive Phase I/II study, RhoVac designed a larger Phase IIb study, BRaVac, to explore efficacy in the same patient group. As of September 2021, the trial is fully enrolled with at least 180 prostate cancer patients who experienced biochemical failure after a curative therapy (surgery or radiation therapy). The therapy will be administered as 12 subcutaneous injections over several months. The **primary endpoint** is time to PSA progression. Patients with biochemical failure will be included in the study if they:

- have had biochemical recurrence where their PSA level reaches ≥0.2ng/mL; and
- have PSA doubling time of between three and 12 months.

During the study, patients' PSA will be measured to calculate doubling time. RhoVac is aiming to reduce the PSA progression rate by 50% compared with the placebo group, an outcome that would be interesting to urologists. The COVID-19 pandemic caused a modest recruitment delay, but other than that the effect was limited. The delay is manageable with the existing budget and key top-line results should be reported in H122, while follow-up data should be ready 12 months later.

PSA progression is a good endpoint for this group of patients in a Phase II trial, mainly because it allows RhoVac to perform a relatively small and fast study. Feedback from both the EMA and FDA was positive on the endpoints, and other studies in the same group of patients are also using PSA endpoints in Phase II, eg nivolumab (Bristol-Myers Squibb) and olaparib (AstraZeneca). PSA is known to be a reliable measure of disease progression/metastasis in prostate cancer.

Fast-track designation granted by the FDA

In November 2020, the US FDA granted Fast Track designation. The benefits of Fast Track designation include more frequent meetings and written correspondence with the FDA, the potential for accelerated approval or priority review if additional criteria are met, and rolling review, which means that a company can submit completed sections of its Biologics License Application (BLA) for review by the FDA, rather than wait until the full application is complete. The granting of the designation means a third-party validation of RhoVac's plans, but should also make RV001 more appealing to potential partners, given it eases some of the regulatory processes ahead.

Strategic options for late-stage development

If the Phase IIb study is positive, at least one successful Phase III study will likely be required for regulatory approval. RhoVac's current strategy is to partner following the Phase IIb outcome, but it is open to options including selling the whole company or signing a licensing deal. For our modelling purposes, we assume a licensing deal in 2022 followed by a single Phase III study (full out-licensing, costs to be borne by the partner), which will be a global study including both European and US sites, and will take approximately four years to complete. However, we cannot exclude the possibility that an additional Phase II or Phase III study would be required depending on partner priorities, or that the Phase III study will take longer. That will depend on further regulatory interactions and any potential partnership with pharma companies, which may set their own goals. The key value inflection point, however, is the results of the ongoing Phase IIb study.

RV001: A peptide-based immunotherapy

RV001 is a peptide-based immunotherapy that contains fragments of a protein called RhoC, which is overexpressed in cells with metastatic potential in a range of cancers (Karlsson et al 2009). It has been found to be essential for metastasis (Hakem et al 2005), and to cause metastasis in animal models (Clark et al 2000). The adjuvant Montanide ISA 51 is used together with peptides to increase the immune response. RhoVac expects RV001 to elicit a T-cell response against RhoC through major histocompatibility (MHC) class I and II.

RhoC is on the National Cancer Institute list of priority cancer antigens. RhoC is an Rho GTPase, which have a role in cellular processes such as migration and cell adhesion. Since metastasis employs these mechanisms, Rho GTPases are also associated with metastasis. This is not a cancer-specific mechanism, however, as any cell involved in tissue repair or angiogenesis will use the same mechanism. Nevertheless, RhoC is overexpressed in tumour cells, including metastatic lesions. So, this protein is tissue-agnostic, but overexpressed in cancer metastases. An interesting finding is that RhoC overexpression is maintained as secondary tumours develop (Liu et al 2007). This observation further supports the rationale of using RV001 for metastases prevention and control or treatment of secondary tumours.

In a malignant process, cancer cells die and proteins/antigens are released. These are then taken up by the patient's own antigen-presenting cells or dendritic cells (DCs), and in lymph nodes they present these antigens to T-cells. This leads to activation and production of populations of T-cells, which can now recognise and destroy cancerous cells that display the same antigens as those previously presented. However, this process is not perfect, which is why not every malignant process is stopped. Once a tumour develops, it often also has multiple ways to suppress the immune response and enable the tumour to 'hide' from the immune cells. The goal of cancer immunotherapies, such as RV001, is to expose the tumour cells as foreign to the patient's immune system so the tumour is recognised and immunologically attacked.

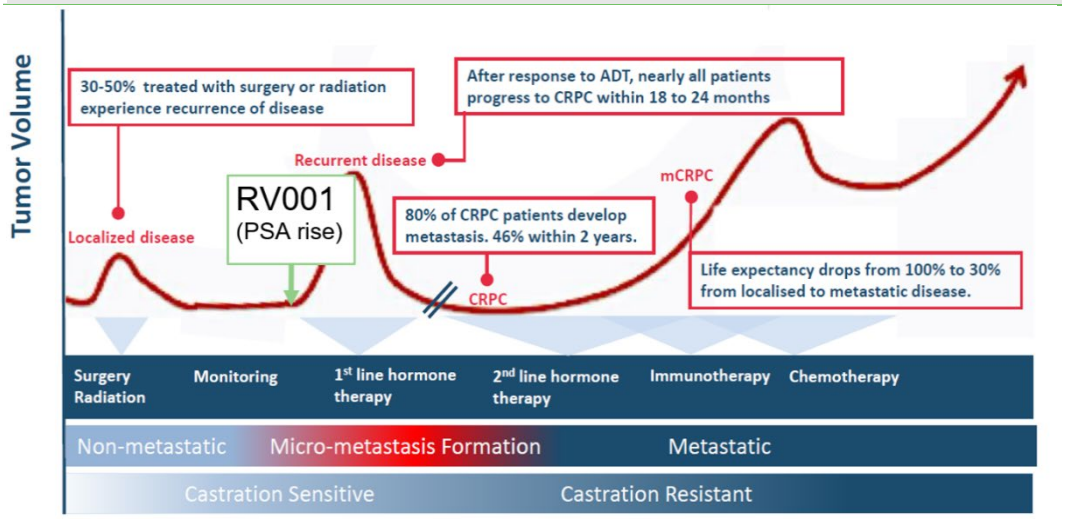
Targeting an unmet need in prostate cancer

Prostate cancer is a common cancer in men over the age of 50. The National Cancer Institute estimates that 174,650 patients in the US were diagnosed with prostate cancer in 2019 and there were c 31,620 deaths recorded from the disease in the US during 2019. Prostate cancer is usually diagnosed by carrying out a mixture of PSA blood test, digital rectal examination and biopsy. PSA is also an important tool to monitor patients for relapse. The stage of prostate cancer at diagnosis is a significant contributor to survival, as patients with early local disease have a five-year survival rate of 98%, while patients with advanced metastasis have five-year survival of 28% (Tewari et al 2014). The stage of prostate cancer together with the risk level determines treatment options:

- **Localised prostate cancer with low risk or intermediate risk** is treated with active surveillance or radical therapy (either radical prostatectomy or radiation therapy). Low-risk patients might be subject to watchful waiting, with delayed androgen deprivation therapy (or hormone therapy) as an alternative if they are very low risk. Intermediate-risk patients might also receive adjuvant hormone therapy with their radiation therapy. Many patients will relapse after radical therapy, and will move on to hormone therapy or salvage radiotherapy. Most patients live for many years with localised disease, but most will eventually still progress.
- **Patients with high-risk localised or locally advanced prostate cancer** might receive hormone therapy, radical prostatectomy or radiotherapy and, on relapse, additional hormone therapy or radiotherapy. Many patients will progress to metastatic disease, which is most often bone metastases.

- **Metastatic disease can be either hormone-naïve or castrate-resistant**. Hormone-naïve patients can receive androgen deprivation therapy, but castrate-resistant prostate cancer patients have to move on to other salvage options. This group of patients has a poor prognosis.

Exhibit 1: Prostate cancer progression and RV001 positioning



Source: RhoVac

RhoVac is targeting patients with localised disease who have relapsed after treatment with curative intent (ie radical prostatectomy or radiotherapy). This is a group of patients who still have a relatively good prognosis. A relapse in these patients is known as biochemical recurrence/ biochemical failure and can be defined as a rise in PSA ≥0.2ng/mL (American Urological Association, European Association of Urology). Currently these patients will move on to hormone therapy or salvage radiotherapy, but RhoVac wants to delay disease progression by postponing the relapse. RV001 will therefore be given as an 'adjuvant' treatment to radical therapy. Discussions with the EMA and FDA highlight that this is an area of unmet medical need.

There is potential for RV001 to expand into other patient populations. It could be used as a non-invasive therapy instead of just watchful waiting in low-risk localised prostate cancer patients, who are not candidates for radical prostatectomy or radiotherapy (earlier stage than that currently targeted). There is also a rationale to use RV001 in later stages, for example in patients with metastasised cancer who are receiving androgen deprivation therapy. Not all cancer cells are sensitive to antiandrogens, which is why the cancer ultimately relapses and becomes castrate-resistance prostate cancer. The addition of RV001 to complement antiandrogen therapy could either slow down the development of antiandrogen-resistant cells or eradicate them.

Competitive landscape

Virtually the only approach used for the group of patients at which RV001 is targeted in the ongoing Phase IIb trial is watchful waiting. As a result, in this specific patient population RV001 as a monotherapy would have no competition. Overall, the best-selling prostate cancer drugs in 2020 were branded hormone drugs targeting advanced disease, ie Xtandi (enzalutamide, Astellas) with sales of $4.3bn and Zytiga (abiraterone acetate, Janssen Biotech) with sales of $2.5bn (source: EvaluatePharma).

Clinical studies in biochemical failure

The majority of clinical development is for metastatic castrate-resistant prostate cancer. However, there are a few ongoing studies with immunotherapeutics being conducted in patients with biochemical recurrence (Exhibit 2). To our knowledge, there have not been any Phase III studies

investigating novel therapeutics carried out in this group of patients. There are several experimental therapies in earlier stages. Results from these studies could provide insights for RhoVac, and if any Phase III studies are initiated it will also be helpful for RhoVac when discussing endpoints with the regulators. All these third-party trials experienced delays during the pandemic.

Exhibit 2: Drugs in development for biochemical recurrence in localised prostate cancer

Product	Pharmacological class	Company	Phase of development	Number of patients	Primary endpoint(s)	Estimated primary completion date
RV001	Peptide-based immunotherapy (RhoC)	RhoVac	Phase IIb [NCT04114825]	150	Time to documented PSA progression or clinical recurrence, death of any cause	H122
Enzalutamide	Anti-androgen	Astellas	Phase II [NCT02203695] (marketed in other prostate cancer populations)	122	Rate of Freedom-from-PSA-progression (FFPP) at 2-years	December 2022
Nivolumab	PD-1 inhibitor	Bristol-Myers Squibb	Phase II [NCT03637543]	34	Disease control (proportion of patients that experience decline or stabilisation of PSA)	March 2022
Olaparib	PARP inhibitor	AstraZeneca	Phase II [NCT03047135]	50	Response rate (decline in PSA to 50% of baseline level)	January 2022
Rucaparib	PARP inhibitor	Clovis Oncology	Phase II [NCT03533946]	32	50% reduction in PSA levels	July 2023

Source: EvaluatePharma, Clinicaltrials.gov

Sensitivities

RhoVac is subject to typical biotech company development risks, including the unpredictable outcome of trials, regulatory decisions, success of competitors, financing and commercial risks. Currently, RhoVac is a single technology company, which is high risk since if the technology is not successful in treating metastasis the company cannot fall back on any alternatives. On the other hand, if proof of concept is established in metastatic the process of one cancer type, it could work in multiple other cancers where RhoC is overexpressed.

RhoVac is an early-stage drug developer, therefore in the foreseeable future value creation will depend on successful R&D progress and any potential partnering activities. The near-term R&D sensitivities are tied to RV001 in prostate cancer, which is the only clinical-stage programme. Our model assumes that RV001 will be out-licensed and our valuation is therefore sensitive to potential licensing timing and actual deal terms. The design of the Phase III study in prostate cancer as well as the cost and length of the study are unknown. In our model, we assume a four-year Phase III trial in prostate cancer. However, there is a risk the trial could take longer if a different endpoint is required.

Valuation

Our RhoVac valuation (Exhibit 3) is higher at SEK1.62bn or SEK84.9/share compared to SEK68.5/share previously due to rolling the model forward, which offsets the lower cash position (SEK58.0m at end-H121). The main change to our assumptions is that we increase our probability of success to 20% from 15%. This is based on the Safety Monitoring Committee successfully completing its review in July 2021 and the fact that the trial is now fully recruited. So, at least from a safety and execution perspective, the risk has been resolved. Exhibit 4 summarises our detailed assumptions for the rNPV valuation.

For now, we include a single asset in a single indication in our valuation (RV001 in prostate cancer patients with biochemical recurrence following radical prostatectomy or radiotherapy). There is a clear rationale for RV001 to be expanded in other prostate cancer patient populations, either earlier or more advanced. In addition, RV001 is tissue-agnostic, so theoretically it could be used in many other cancers that metastasise. Although all these new avenues will require dedicated clinical trials,

in the case of an out-licensing, label and indication expansion would be considered and reflected in the total deal value.

With this in mind, in our model we use comparable licensing deals, whose deal terms stipulate the potential for expansion in multiple cancer types. Over the past five to six years, we have identified the licensing deals listed in Exhibit 5. We take the median upfront ($121m) and milestone payment ($1.07bn) values, but in our model we risk adjust these by 40% to reflect lack of clinical proof-of-concept at the moment and the inherent uncertainty in partnering discussions. We use tiered 10–13% royalty rates. Because of this substantial expansion potential, the comparable deal terms stipulate impressive upfront and milestone payments, which are not reflected in RhoVac's current market capitalisation. We believe repricing could be rapid if clinical proof-of-concept is successfully demonstrated in the ongoing BRaVac trial. We have assumed a market penetration rate of 40% in our rNPV model, which calculates RV001's potential in the current narrow prostate cancer indication (biochemical recurrence after a curative treatment).

Exhibit 3: Sum-of-the-parts RhoVac valuation

Product	Launch	Peak sales (US$m)	Unrisked NPV (SEKm)	Technology probability (%)	rNPV (SEKm)	rNPV/share (SEK)
RV001 – prostate cancer	2027	1,775	5,733.3	20%	1,560.0	81.9
Net cash, last reported			58.0	100%	58.0	3.0
Valuation			**5,791.3**		**1,618.0**	**84.9**

Source: Edison Investment Research. Note: WACC = 12.5% for product valuations.

Exhibit 4: Assumptions for RV001 valuation

Product/indication	Comments
RV001 – prostate cancer	■ Target population: c 22k prostate cancer patients in the US who have biochemical recurrence annually, and c 41k in EU14. This is reached by taking the incidence of prostate cancer in each region (175k US and 324k in EU14) multiplied by the proportion diagnosed with local disease (approximately 66%) multiplied by the proportion treated with radical prostatectomy or radiotherapy (approximately 55%) multiplied by the proportion having biochemical recurrence per year (approx. 35%). 40% peak penetration. ■ Pricing: $50k per patient per year in the US, 30% discount in Europe. Peak sales in five years. ■ R&D cost: SEK58m in cash remaining as of end-Q221, which we expect will be sufficient to complete Phase IIb trial, then RV001 will be out-licensed. ■ IP rights: proprietary technology; patent protection until 2028 (Europe, Australia, Japan) and 2032 (US). Biologicals market exclusivity 12 years in the US and 10 years in Europe.

Source: Edison Investment Research. Note: Target geographies used in the model are the US, and top 14 European countries (EU5 + Netherlands, Belgium, Luxembourg, Denmark, Finland, Norway, Sweden, Austria and Switzerland).

Exhibit 5: Comparable deals for immunotherapy assets in late-stage development for prostate cancer

Date	Licensor	Licensee	Product	Pharmacological class/target	Upfront ($m)	Total milestones	R&D milestones	Sales milestones
28/03/2019	AstraZeneca	Daiichi Sankyo	Enhertu	Topoisomerase I inhibitor; HER-2 antibody	1,350	5,550	3,800	1,750
02/03/2015	Novartis	Arzerra	Genmab	B-lymphocyte antigen CD20 antibody	102	1,600	1,600	
17/08/2018	OncologiE	Lefitolimod	Mologen	Toll-like receptor 9 (TLR9) agonist	27	1,270	1,270	
04/03/2015	Bristol-Myers Squibb	Prostvac	Bavarian Nordic	Prostate-specific membrane antigen (PSMA) regulator	140	835	340	495
24/09/2014	Baxter International	Onivyde	Merrimack	Topoisomerase I inhibitor	100	870	620	250
24/08/2015	Medivation	Talzenna	BioMarin Pharmaceutical	PARP1,2 inhibitor	410	160	160	0
Median					**121**	**1,070**		

Source: Edison Investment Research, EvaluatePharma, company press releases.

Positive Phase IIb study scenarios

In Exhibit 6 below we provide a sensitivity analysis that looks at the potential effect on our valuation of a successful Phase IIb outcome, by rolling forward our model to several future dates during 2022 when the BRaVac data might become available. Assuming the data are positive, we would expect to increase the technological success probability to 40% from our current of 20%. Because a successful Phase IIb outcome would also be the first clinical proof-of-concept, we believe this would increase RV001's potential in other indications. This would allow us to reflect a larger portion of

comparable deal economics (currently adjusted at a conservative 40%, as explained in our last published outlook report). There are no historical comparators as to how much this portion should increase, so we will review the totality of data (RhoVac may also conduct preclinical studies in other indications in parallel to the Phase IIb trial).

Exhibit 6: Phase IIa BRaVac trial read-out sensitivity analysis on RV001's rNPV (SEK/share)

		Discount to licensing deal economics				
	rNPV	10%	20%	40%	80%	100%
Readout timing	May 2022	101.5	117.1	148.2	210.5	241.6
	June 2022	102.5	118.3	149.7	212.6	244.0
	July 2022	103.5	119.4	151.2	214.7	246.4
	August 2022	104.6	120.6	152.7	216.8	248.9

Source: Edison Investment Research

Financials

With its H121 results, RhoVac reported income of SEK9.6m, which was the allocated portion of the EU Horizon 2020 grant (€2.5m or c SEK27m, of which a total of c SEK22m had been received by the end of H121). Operating costs in H121 were SEK33.7m versus SEK24.9m a year ago, reflecting the continued R&D uplift as new patients were enrolled into the BRaVac study. In addition, the company recognised SEK6.0m in tax credits in H121. In 2021 and 2022, we forecast that spending will continue at a similar level at c SEK45–50m, partly offset by the remaining instalments expected from the EU Horizon 2020 grant.

The reported end-H121 cash position was SEK58.0m with no interest-bearing debt. RhoVac will still receive the remaining part of the grant (c SEK5m) and expects around SEK14m in tax credits during the remainder of the BRaVac trial. These expected amounts plus pre-paid expenses of SEK15m (current assets on the balance sheet) mean that total expected funding is around SEK92m, which is sufficient to complete the ongoing Phase IIb study.

Exhibit 7: Financial summary

SEK000s	2019	2020	2021e	2022e
Year end 31 December	Local GAAP	Local GAAP	Local GAAP	Local GAAP
PROFIT & LOSS				
Revenue	5,979	6,012	10,976	5,945
Cost of Sales	0	0	0	0
Gross Profit	5,979	6,012	10,976	5,945
Research and development	(38,743)	(45,974)	(50,000)	(45,000)
EBITDA	(36,498)	(47,468)	(39,024)	(39,055)
Operating Profit (before amort. and except.)	(12,857)	(20,148)	(36,498)	(47,468)
Intangible Amortisation	0	0	0	0
Exceptionals	0	0	0	0
Other	0	0	0	1
Operating Profit	(36,498)	(47,468)	(39,024)	(39,054)
Net Interest	382	577	363	148
Profit Before Tax (norm)	(36,116)	(46,891)	(38,662)	(38,907)
Profit Before Tax (reported)	(36,116)	(46,891)	(38,662)	(38,906)
Tax	3,837	7,744	7,700	7,700
Profit After Tax (norm)	(32,279)	(39,147)	(30,962)	(31,206)
Profit After Tax (reported)	(32,279)	(39,147)	(30,962)	(31,206)
Average Number of Shares Outstanding (m)	13.9	19.0	19.0	19.0
EPS - normalised (SEK)	(2.33)	(2.06)	(1.63)	(1.64)
EPS - normalised and fully diluted (SEK)	(2.33)	(2.06)	(1.63)	(1.64)
EPS - (reported) (SEK)	(2.33)	(2.06)	(1.63)	(1.64)
Dividend per share (SEK)	0.0	0.0	0.0	0.0
Gross Margin (%)	N/A	100.0	100.0	100.0
EBITDA Margin (%)	N/A	N/A	N/A	N/A
Operating Margin (before GW and except.) (%)	N/A	N/A	N/A	N/A
BALANCE SHEET				
Fixed Assets	0	0	0	0
Intangible Assets	0	0	0	0
Tangible Assets	0	0	0	0
Investments	0	0	0	0
Current Assets	149,928	101,947	73,669	40,412
Stocks	0	0	0	0
Debtors	14,391	14,619	21,049	11,401
Cash	129,543	77,524	42,816	19,207
Other	5,994	9,804	9,804	9,804
Current Liabilities	(12,574)	(7,147)	(9,993)	(7,942)
Creditors	(12,574)	(7,147)	(9,993)	(7,942)
Short term borrowings	0	0	0	0
Long Term Liabilities	0	0	0	0
Long term borrowings	0	0	0	0
Other long-term liabilities	0	0	0	0
Net Assets	137,354	94,800	63,676	32,470
CASH FLOW				
Operating Cash Flow	(43,482)	(53,838)	(42,609)	(31,457)
Net Interest	(1,834)	(468)	200	148
Tax	2,986	3,808	7,700	7,700
Capex	0	0	0	0
Acquisitions/disposals	0	0	0	0
Financing	154,715	0	0	0
Other	1,098	(1,521)	0	0
Dividends	0	0	0	0
Net Cash Flow	113,483	(52,019)	(34,708)	(23,608)
Opening net debt/(cash)	(16,060)	(129,543)	(77,524)	(42,816)
HP finance leases initiated	0	0	0	0
Other	0	0	0	0
Closing net debt/(cash)	(129,543)	(77,524)	(42,816)	(19,207)

Source: RhoVac accounts, Edison Investment Research

Contact details	Revenue by geography
Medicon Village Scheelevägen 2 Lund Sweden +46 73-751 72 78 www.rhovac.com/	N/A

Management team

CEO: Anders Månsson	CFO: Henrik Stage
Anders Månsson has extensive experience of the pharmaceutical world, both internationally and locally. He has worked in senior positions in major pharmaceutical companies in Sweden, Denmark, the UK and Switzerland. His focus was on sales and marketing, as well as on business development including distribution and licence agreements, divestments and acquisition agreements worth over several billion Swedish kronor. In recent years, he has also held a number of board positions in biotech/life science in southern Sweden.	Henrik Stage has an MSc in finance and more than 25 years' experience in leading biotechnology and finance sector positions. His background includes several pharmaceutical deals and he was involved in the successful exit of Santaris Pharma, which was sold to Roche for US$450m in 2014. Mr Stage is a part-owner of Ventac Holdings (Cyprus), which owns shares in RhoVac.
Chief Development Officer: Steffen Wad Jørgensen	
Steffen Wad Jørgensen has a pharmacy degree, as well as a PhD in immunology and clinical chemistry. He has extensive experience in formulation development and analysis, as well as project coordination of both early and late clinical development projects. During his time at Lundbeck, Wad Jørgensen held significant positions in corporate project management and business development.	

Principal shareholders	(%)
Rutger Arnhult	20.41
Nordic Cross Asset Management	10.66
Anders Ljungqvist	7.56
Avanza Pension	4.28
Göran Källebo	3.34
Nordnet Pensionsförsäkring	2.43

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