Investment case

MODUS THERAPEUTICS HOLDING AB

Modus Therapeutics Holding AB is a Swedish biotechnology company that develops drugs for difficult-to-treat conditions, primarily within sepsis.

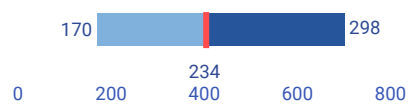
STRENGTHS, OPPURTUNITIES & RISKS

- To date, Modus has interesting preclinical data based on animal studies which, in combination with clinical studies, provide solid clinical evidence for further development. The company's drug candidate sevuparin has previously undergone phase 2 studies in sickle cell anemia, which has provided robust data for the drug candidate's pos. safety profile.
- The company's drug candidate is based on a drug that has been on the market since the 1930s, Heparin. Statistically speaking, the risks of failed studies are often lower when further development of existing drugs takes place when a lot of data on the mechanism of action is available. This could possibly, purely statistically, increase the chances of successful studies for Modus candidate as one now advances into more clinical trial protocols.

  In terms of Modus' position in the market today, where the company could hypothetically advance sevuparin into a phase 2 trial, the company's expected valuation when listed on the stock exchange is relatively low in comparison with similar companies.
- One of the risks we see in Modus is the company's patent, which protects sevuparin until 2032 (with the possibility of extension). Given that the company's candidate can probably reach the market as early as 2028, this indicates 4-9 years of patent-protected sales including potential extensions. Which is short but is judged to be sufficient by the company.

  Furthermore, the capital requirement of drug development-companies is often large when advancing through clinics. Thus, Modus may need to raise more capital before any out-licensing/sale is possible.

VALUATION RANGE (MSEK)



We estimate that SEK 234 million is a fair shareholder value pre-money, within the range of SEK 170-298 million.

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Significant potential with proven technology

Modus Therapeutics (Modus or the company) is a Swedish biotechnology company that is developing the drug candidate sevuparin for the difficult-to-treat condition sepsis and septic shock. A condition that each year leads to about 11 million deaths from a global perspective. This can be compared to about 10 million people who die of cancer annually. With that said, the market is huge. At present, there are few treatment options for patients affected by the condition where the unmet medical need for new treatments is a high. The company has generated robust data in previous studies that form the basis for the upcoming phase 1/2 studies that the forthcoming IPO will finance. In terms of the few treatment options and the great medical need, we model that the company's candidate, sevuparin, reach north of $ 1.6 billion in peak sales. Based on this, we estimate a fair shareholder value, pre-money, at SEK 234 million in the range of SEK 170-298 million.

Drug candidate and areas of use

Modus has developed a drug candidate, sevuparin, for sepsis, or blood poisoning. Sepsis is a deadly disease that in its most dangerous stage, septic shock, has a mortality rate of about 30 percent for sick patients. There are no approved specific drugs against the condition, which thus categorizes the condition as an area of great unmet medical need. In septic shock, the permeability of organs' blood vessels increases to extreme levels, causing them to be flooded with body fluids. This in turn leads to organ failure with devastating consequences for the patient. Sevuparin is thought to prevent the permeability of blood vessels from increasing in shock, which would prevent organ failure and drastically reduce mortality in sepsis and septic shock. Sevuparin is based on heparin, a drug from the 1930s that inhibits the blood's ability to clot. Thus, many of the candidate's characteristics are already known, which reduces the development risk.

Good clinical data from earlier studies

Sevuparin has already undergone a phase 2 trial in sickle cell anemia, which showed no effect. Thus, comprehensive safety data is already available. Phase 1 has already been completed with sevuparin with successful results. In principle, the company is currently ready for a phase 2 trial. However, the management believes that an initial phase 1b trial on healthy volunteers with simulated illness is a safer way to go than to start the phase 2a trial immediately. This is because such a phase 1b trial can provide information about the optimal dosage.

Low valuation based on the company's position

Although the company is in principle ready for a phase 2 trial, it is listed on a stock exchange as a preclinical company. This can be partly explained by the fact that the patent-protected period is relatively short and runs until 2032. However, the company expects to receive an extension of the patent until 2036-2037. The relatively short patent period is due to previously unsuccessful studies in the sickle cell track that cost the company several years in terms of development time within the then indication. However, it is not uncommon for drugs to find new uses during research, especially when they have such broad mechanisms of action that sevuparin could potentially be targeted. Overall, Modus pre-money valuation is clearly lower than the average for research companies in phase 1/2.

Great potential with significant risks

Modus as an investment, like many other companies in the sector, is associated with big risks. In addition to the patentsituation, additional financing will probably be needed before outlicensing the candidate or selling the company. Despite this, we estimate a fair value of SEK 234 million, pre-money. This can be put in relation to the current offer with a pre-money valuation of SEK 70 million.

Investment case

Modus is a Swedish biotechnology company that is developing the drug candidate Sevuparin for the severe condition Sepsis, also called blood poisoning. Sevuparin is based on the well-known drug heparin, which has been established on the market since the 1930s. The condition sepsis and septic shock annually affects about 3.4 million people in the seven largest markets. In the largest market, the United States, about 1.7 million develop the condition, of which 270,000 dies. Today, there are no approved treatment options for sepsis, which makes the need for new drugs extremely great. The company's candidate sevuparin has robust data from both clinical and preclinical studies and is now facing an initial phase 1b trial and a proof-of-concept trial in phase 2a, which are fully funded from the company's forthcoming IPO. We are modulating a LOA for sevuparin amounting to 9.6 percent with peak sales in the 7 largest markets of USD 1.6 billion. Among the biggest risks we observe in the company is the relatively short patent period of sevuparin (2032), and that Modus' fate depends on an individual development project. Overall, we consider the potential in the company bigger than the risks and we modulate an Enterprise value (EV) of SEK 234 million, pre-money. This can be put in relation to the current offer with a pre-money valuation of SEK 70 million.

Reduces risk for candidate with unmet medical need

The company's candidate, sevuparin, is based on the well-known substance heparin that was presented by Erik Jorpes at Karolinska Institutet in the early 1930s. Heparin is a polysaccharide of glycosaminoglycan type which prevents blood from coagulating by increasing efficiency of antithrombin III, a protein that inhibits thrombin required for coagulation. The substance is used in healthcare to make surfaces blood compatible and as an injection for to dissolve or prevent blood clots. It is important to understand heparin's background in order to assess the future development risk for Modus' candidate, sevuparin. By being, in a way, a further developed and improved version of heparin's mechanisms of Action reduces the development risk for sevuparin, as robust data from several studies are already available documented.

Heparin as a mechanism of action has been on the market since the 1930s. Statistically, this entails a reduced risk in development programs for drug candidates that are based on mechanisms that have been on the market for a long time.

Great need for new drugs and limited competition

Given that today there are no approved treatment options that directly affect the condition of sepsis and septic shock, the need for new drugs is enormous. This means that the regulatory authorities around the world may make somewhat lower demands in terms of, for example, efficiency. This has been exemplified to some extent by the recently approved drug in Alzheimer's, the antibody Adacanumab from Biogen. Efficacy data from Adacanumab are weak but the need for new treatments in Alzheimer's is so high that regulatory requirements were relatively low. In our opinion, a similar scenario is possible even within the condition of sepsis. Of course, provided that the side effects of sevuparin are small. En möjlighet som bolaget också ser är att läkemedelskandidaten kan accepteras ett accelererat godkännande av FDA (amerikanska läkemedelsmyndigheten), något som skulle kunna innebära att läkemedlet kommer ut på marknaden omkring 2 år tidigare än vad vi i våra nuvarande prognoser estimerar.

According to the WHO, about 11 million people die each year from the condition Sepsis. In cancer, about 10 million people die each year, this indicates the great market potential Sevuparin may face in our successful studies.

The competition for Modus comes mainly from experimental drugs that are now undergoing late clinical phase. However, this competition is severely limited. The company itself only sees Adrecizumab, a monoclonal antibody from German Adrenomed, as a direct competitor. Adrecizumab is based on the same principle as sevuparin, that is, to prevent excessive permeability of blood vessels in septic shock. However, the mechanism of action is different. Adrenomed has already conducted a phase 2 trial where a positive trend in survival could be shown compared to placebo. Even if Adrecizumad were to be approved, it is an antibody with one mechanism of action while sevuparin is a small molecule with another, so there would be room for both, however, the market potential for sevuparin would decrease.

There are also a number of secondary competitors in the clinical phase. For example, AM-Pharma recently initiated a phase 3 trial in renal protection during sepsis with its candidate. Furthermore, there are competitors in the preclinical stage, but the competition from them can be considered limited at present, as the probability that a development program in sepsis will succeed from the preclinical phase is low.

Patients suffering from Sepsis are currently without direct treatment. Doctors mainly use alternative treatments to address the patient's various symptoms. This entails a great medical need in the area.

Already conducted studies reduce the risk and costs

Around SEK 250 million has already been invested in the company. About 150 of these are related to the phase 2 trial in sickle cell anemia. As a rough estimate, we believe that investments of around SEK 100 million will accompany the new indication within sepsis and septic shock.

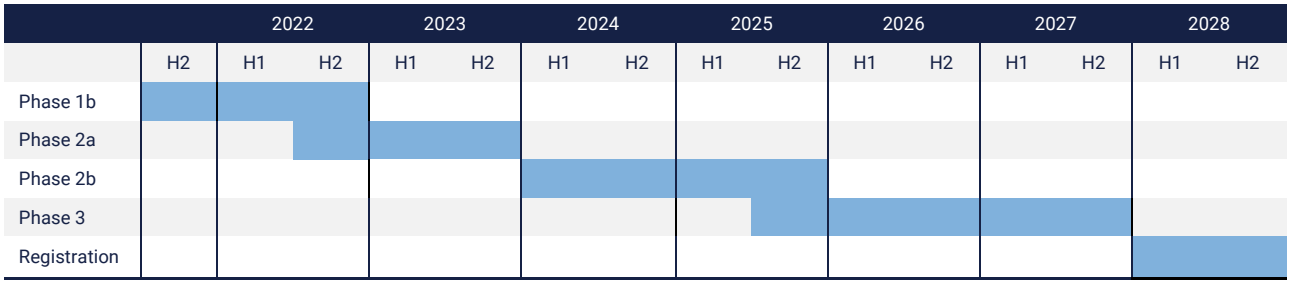
The drug candidate has shown efficacy against sepsis in preclinical studies in both live mice and cultured human cells. A new phase 1 trial does not need to be conducted. However, the phase 1b trial will be performed on healthy volunteers in whom a disease-like condition has been induced. This is to identify the optimal dosage.

Development plan

The company has a realistic and relatively detailed plan for how the candidate should be taken all the way to market. There is a detailed target plan for the years 2021-2025. If possible, a license agreement should be concluded after a completed proof-of-concept trial (phase 2a). At the same time, the company is preparing for a phase 2b, which it is possible to carry out under its own auspices if it becomes necessary through financing from the company's listing. There are also plans for how this trial can be taken to a phase 3 as well as plans to apply for support programs from the FDA and EMA for a faster path to the market (for example through Accelerated Approval). The company has a management that thinks strategically and long-term, which is necessary for a pharmaceutical project to succeed.

Modus strives for potentially observed effects in the company's phase 2a trial to see opportunities for out-licensing or sales of the entire company. This strategy entails a clear strategy for significant value creation for the company's shareholders in a relatively short time, given the candidate's history and development program.

Illustration, intended development plan



Källa: Company information and Carlsquare

Phase 2a will be crucial

A license agreement in connection with the phase 2a trial presupposes convincing results in this. Although the results in the phase 2a trial are convincing, it is possible that the company will need to carry out the phase 2b trial under its own auspices in order not to lose time, as license negotiations can drag on. In the case of positive results in the phase 2a trial, this will probably not be a problem as positive results should have a strong positive impact on the price and the opportunity to raise money in a private placement to major institutional investors to finance the phase 2b trial. Unsatisfactory results in the phase 2a trial, we believe will lead to the project within sepsis being discontinued as the patent period becomes too short to start again from the beginning. Additional patents for sevuparin in new indications may, however, keep the company alive.

Drug candidate and market opportunity

Sepsis and septic shock

Sepsis is what is commonly called sepsis. It is a complicated process that involves an extremely strong immune response due to an infection in the body, typically by bacteria. It can occur, for example, as a result of pneumonia if toxic substances from the infection ion spread to the blood. Sepsis turns into septic shock when blood pressure drops below a certain value and when high levels of lactic acid can be measured in the blood. This often leads to organ failure and death. Sepsis is extremely deadly and is estimated to be around 30 percent. However, mortality varies greatly in different studies depending on different definitions of Sepsis.

Every year, about 60 million people worldwide die. The WHO has estimated that around 49 million people a year suffer from sepsis and that around 11 million of them die. The majority in developing countries. This can be compared with the disease group that has the most deaths, cardiovascular disease, with 18 million deaths per year. However, these categories may partially overlap. Cancer, which is the disease council in which the newest drugs are developed, has about ten million deaths per year.

Few treatment options for patients

Today, as previously mentioned, there are no specific drugs for sepsis. The treatment is adapted to the patient's status. The patient generally receives oxygen first. Then drip with electrolytes and intravenous antibiotics. If the blood pressure drops, agents that raise the blood pressure are inserted. Many patients develop lung weight and need to be connected to a respirator. To avoid septic shock, it is important that the patient be treated within six hours of the onset of symptoms.

It is still not completely known what sepsis is. As recently as February 2016, there was a new definition of Sepsis, Sepsis-3, which indicates that research is still trying to establish clear positions on the issue of sepsis. Despite extensive research, only one drug candidate was approved, this in 2001, when the drug candidate Xigris from Eli Lilly was approved, but the company withdrew the drug in 2011 after more extensive analyzes showed that it had no statistically significant effect.

The difficulty in developing a drug for sepsis is, in addition to the fact that the course of the disease is not well defined, that it can be triggered by several different factors and that the course consists of several different defense mechanisms that are activated in the body, ie the immune system. A large part of the research today is therefore about finding treatment methods or drugs that affect parts of the disease process.

Characteristics of sevuparin

Sevuparin is a unique heparin-like molecule that has been adapted to greatly reduce the blood-thinning effect. Heparin, which is a coagulation inhibitor, is one of the oldest existing drugs that was launched as previously mentioned almost 100 years ago. Researchers have seen the potential in using heparin in several disease states, but its blood-thinning effect, which can lead to bleeding, means that the dose must be severely limited, which means that the effect is low.

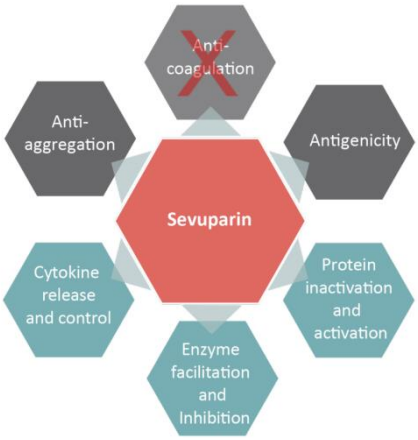
Sevuparin is based on heparin. A mechanism of action that has been on the market since the 1930s.

Sevapurin has the same binding profile as heparin, except that it does not bind to antithrombin III and thus does not prevent coagulation. Heparin is similar to several molecules in the body and can bind to a large number of surfaces inside the body. It is a polysaccharide, which plays an important role in living things.

The discovery that is in the current direction against sepsis is that sevuparin protects the blood vessels in inflammation and increases the permeability of the blood vessels. Most blood vessels are permeable to larger molecules. In inflammation, the blood vessels open so that immune cells can escape. One of the biggest problems with sepsis, and especially septic shock, is that the blood vessels in entire organs become completely permeable so that they can be soaked by body fluids along with molecules and cells that should not be there. Modus has shown preclinical trials that sevuparin calms immune cells in the blood so that they do not signal to the walls of blood vessels to open. If this can be proven in sepsis patients, it can mean that organ failure and extremely low blood pressure, which are the deadly components of septic shock, can be avoided.

The image below illustrates the effects of sevuparin. Of the known potent effects of heparinoids and sevuparin, those marked in green are those that are relevant in the treatment of and septic shock. The blue mark represents the mechanism that was considered relevant in previous studies on sickle cell disease. Blood thinning is crossed out in the figure as sevuparin, unlike other heparinoids, does not have blood-thinning properties. Antigenicity is the ability of a chemical structure to specifically bind to a group of certain products that have adaptive immunity: T cell receptors or antibodies.

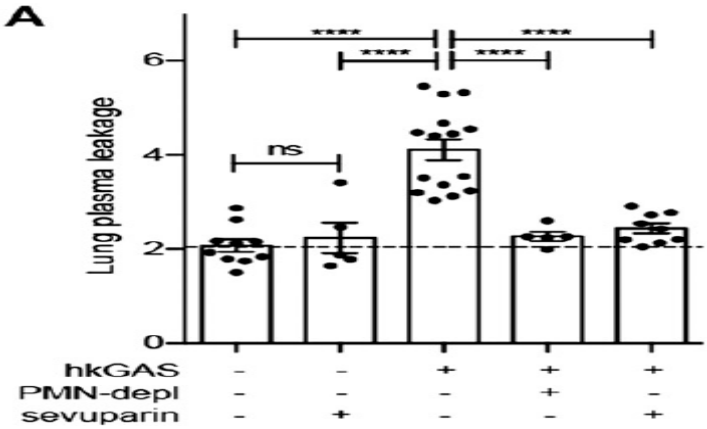
Characteristics of sevuparin



Source: Company information

That the human cells that enable the permeability of blood vessels (neutrophilic granulocytes) have an inhibited activity of sevuparin has been shown in vitro (ie in test tubes) is positive. An experiment with mice has shown that sevuparin prevents leakage into the lungs during disease simulation, see below. The outcome of the experiment is presented in the image below.

Plasma leakage to lungs in systemic infection in a mouse model



Source: Rasmuson et al 2019

hkGAS stands for "heat-killed group A Streptococcus", ie heat-killed bacteria. PMN-depl stands for polymorphonuclear cell depletion, ie the emptying of granulocytes (a type of immune cell that contains sacs with defenses). What the graph shows, from left to right, is (1) that the leakage to the lung in placebo is about two on the scale. (2) When sevuparin is injected, there are still two leaks. (3) When heat-killed group-1 streptococcus is injected, the leakage to the lung doubles to four. (4) When heat-killed group-1 streptococcus is injected at the same time as granulocytes are neutralized in the blood, the leakage is about two, ie the bacterial injection does not lead to increased leakage to the lungs. (5) When heat-killed group-1 streptococcus is injected at the same time as sevuparin, the leakage into the blood is about two, that is, sevuparin prevents increased leakage to the lungs.

The model suggests that it is a certain type of immune cell that causes the lungs to start leaking (granulocytes and there is already knowledge that they are neutrophilic granulocytes) and that sevuparin inhibits the action of these cells by binding their vascular damaging components.These are very interesting results that motivate further research in humans. At the same time, it should be emphasized once again that mice and humans have different immune systems, and it is not a given that something that works on mice will work on humans, especially when it comes to such complex processes as sepsis. The

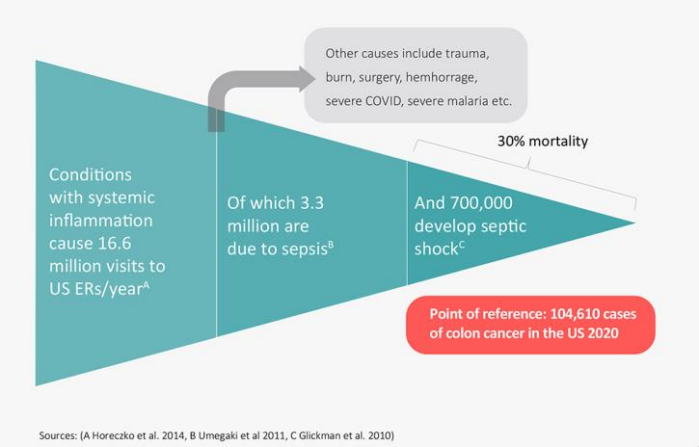
researchers who conducted the experiment above are aware of this fact and have therefore at the same time shown that human neutrophilic granulocytes when treated with sevuparin reduce the permeability of blood vessels in-vitro. It is therefore likely that this mechanism also exists in humans in-vivo. How much effect sevuparin has in a human compared to in a lab glass, however, remains to be seen, which is what will be tested in future clinical trials.

Significant market potential

It is estimated that around 3.4 million people develop sepsis in the seven largest markets, 7MM (measured in value, see ResearchAndMarkets.com 2021) and as many as 11 million die from the condition globally. In the United States, for example, which is the largest market in terms of market size, it is estimated that 1.7 million people develop sepsis, of which 270,000 die each year.

According to the company, the price level for sevuparin is estimated to be 5,000 to 10,000 USD per treatment, depending on the market. The pricing is based on the cost of treating Sepsis patients, which is very high, especially for those who develop septic shock. Assuming that everyone who dies from Sepsis (approximately 540,000 in the 7MM) is a candidate for treatment with sevuparin, the market potential is $ 4.2 billion in the seven largest markets. As there is no approved specific drug for the indication, a new approved one will achieve a large market share. We assume that sevuparin can at least reach a 30% market share, resulting in top sales of $ 1,627 million at present. We expect a price increase of two percent per year.

Sepsis and septic shock on the American market



Source: Company information, Carlsquare

Clear strategy for creating value

The group's long-term financial goal is to license sevuparin to another company, at the earliest after a completed Phase 2a trial. This can happen at the earliest in the beginning of 2024.

Immediately after the listing, the company plans to apply for a permit for to initiate a clinical phase Ib-LPS provocation trial, in order to start it as soon as possible. It is expected to begin in the first quarter of 2022 and last until the second or third quarter of 2022. After this has been completed, Modus Therapeutics plans to begin a clinical phase IIa (a proof-of-concept trial) during the third or fourth quarter of 2022.

An important part of the company's strategy is to attract partnerships or buyers of the company's candidate after proof of the concept trial, phase 2a, a trial whose data can be presented in 2023

A phase 2b trial will be planned at the same time in order to be ready to start it up upon completion of the phase 2a-trial. The intention is for a partner to finance this, but the opportunity is kept open to implement this trial under the company's own auspices. At present, the company believes that the phase 2b trial has the potential to be carried directly into a phase 3 trial and that results from the fase 2b trial can be a subset of the phase 3 trial.

In order to obtain market data for a registration procedure, two major phase 3 trials with a total of more than 1,000 patients over a longer period are normally required. As there is no approved drug for sepsis, the bar is probably lower compared to other drugs. Most of the FDA and EMA programs that accelerate the development are available. The company may have the option of an Accelerated Approval in case of successful phase 2b results if they can demonstrate that symptomatic measures of sepsis are improved, which might allow the company to start marketing the drug at the same time as confirmatory phase 3 trial are undertaken. The company should also have the opportunity to obtain Breakthrough Therapy designation, which can facilitate trials and enable approval through lower requirements for endpoints.

Cash position and budget

To implement its strategy, the company intends to raise SEK 33 million in the current listing issue. In about a year, a further maximum of about 45 million can be added if all the accompanying subscription rights are redeemed.

Bolaget har planerat för följande kostnader fram till en potentiell exit:

- Phase 1b including preparations, about SEK 15 million
- Phase 2a including preparations, about SEK 31 million
- Overhead and other costs up to and including implementation of phase 2a trial, about SEK 25 million

The financing from the company's IPO is expected to finance sevuparin over the important phase 2 trial.

Management and ownership

For companies in an early phase that do not yet have a regular revenue to succeed, it is of utmost importance that the board chooses the right people to lead the company. This is at least as important as the product or service that the company develops being of good quality and in demand. The company has two key operational personnel.

The company has been led by CEO John Öhd for over a year. Prior to that, he worked as Chief Medical Officer for two years at the company. He has thus worked at Modus for three years. He is originally a researcher and medical doctor and has worked with commercial drug development since 2007. He has experience from AstraZeneca, Shire and Medivir. He is more or less solely responsible for the company's new start within the indication sepsis. He has in-depth knowledge of medicine and human biology as he has worked with research in this field at an academic level before. The fact that he is currently the third largest shareholder should ensure leadership in line with the interests of shareholders. For example, new issues with large dilutions are strongly negative for the CEO.

Claes Lindblad was appointed CFO in March 2021. He has over 20 years of experience in Life Science and comes from OssDsign. The company is founded through Karolinska Development and thus has an unusually concentrated ownership. If the listing issue succeeds, the number of shares will increase by approximately 5.2 million. The same number will be added if the accompanying TO1 is fully subscribed. After the listing issue, Other owners will increase from 6.6 percent to 37 percent. If TO1 is fully subscribed, the number of shares will approximately double compared to pre-iPO and the ownership of the original owners below to the right will be halved. The Board includes Karolinska Development's CEO, Viktor Drvota, as Chairman of the Board. Torsten Goesch from Rosetta Capital and Ellen K.Donnelly are board members. The company's composite board has relevant expertise in drug development with a solid network, both in the Nordic region and internationally.

Ownership pre-IPO

Owners	Antal aktier	Procent
Karolinska Development AB	5 742 478	52,5%
Kdev Investments AB	2 572 516	25,2%
John Öhd	1 730 591	15,8%
Övriga	718 165	6,6%
Total	**10 763 750**	**100%**

Source: Company information

Ownership post-IPO

Owners	Antal aktier	Procent
Karolinska Development AB	5 742 478	36,1%
Kdev Investments AB	2 572 516	16%
John Öhd	1 730 591	10,9%
Övriga	5 874 465	37%
Total	**15 920 050**	**100%**

Source: Company information and Carlsquare

Risks and weaknesses

Time lost on previous trials

A number of years of research have been lost on the sickle cell track. The patent expires in 2032, only four years after our forecast market launch in 2038, but with the possibility of extension for five years. The company, which has discussed the strategy with patent experts, expects the protection to be extended to 2036-2037. This would mean a patent-protected sales period of about eight years, which is still an acceptable length for a modern drug. However, it is shorter compared to new projects that go directly to the final indication, which means that the fundamental value of Modus will be slightly lower compared to if the candidate had a typical patent protected sales period. Risks with the patent period can potentially be counteracted by the period of data exclusivity that the approved gives in important regions, eg 8 years within the EMA. Modus also has extensive expertise in the manufacture of sevuparin, which is a complex molecule, which poses challenges for future off-patent competitors.

Sepsis implies a high risk, animal models uncertain

Only one drug has ever been approved for the indication sepsis, Xigris from Eli Lilly. However, it was withdrawn after a long period of use due to lack of efficacy. At present, there are no drugs that are approved specifically for the indication. Sepsis is a very complex process that involves a large part of the body's immune system. This makes it much more difficult to find a cure for the condition compared to a typical drug that binds to a single receptor that affects a single biological process.

There are a number of risks with researching a condition as difficult as sepsis. Considering that there are currently no approved treatments for the condition, the risk of development is even higher than in diseases that are better understood.

Modus bases its hypothesis, that is, that sevuparin limits the damage to the organs during sepsis, on effects in the body that have been observed from Heparin and related drugs. This hypothesis has been strengthened in preclinical experiments, on in-vitro human cells as well as in animals. However, questions can be raised concerning how well results in mice can be translated to humans in sepsis. Therefore, the risk in the project must be considered high, despite good scientific foundations. This is reflected in our probability that the company will succeed through the phase 2a trial of 26.3 percent, which is in line with cardiovascular indications, which have a low probability of success compared to other indications.

High costs and additional financing needs

Drugs that affect the heart and blood vessels are usually the most expensive ones to develop, even more expensive than cancer drugs, which is due to the demands for large trials, especially in the late phase. At the same time, the earlier stages of Sepsis are not very expensive compared to studies in other indications, such as cancer, as it is a critical condition that is treated for a short time, 7-14 days. If the company can find a partner, it will probably bear the costs of the final phase 3 trial, which means that the problem disappears.

Limited development portfolio

Modus Therapeutics currently has only one drug candidate in its project portfolio. This entails an increased development risk in the company. Should the candidate fail in the intended indication, there is not much underlying value left. An alternative for the company to reduce this risk is by investigating and developing sevuparin against other indications, then applying for patents within the new indication. The company intends to submit patents for new indications in order to remedy this issue. In addition, there is a possibility of spreading in the larger area of systemic inflammation in case sevuparin is successful in sepsis because the components affected by the drug are also relevant for systemic inflammations of a genesis other than sepsis.

Financing until potential exit dependent on TO1

To finance the phase 2a trial, the results of which can be decisive and potentially a basis for an exit, the company is dependent on TO1 falling in the money. The subscription price is set at SEK 7.3-8.8. The subscription period runs in May-June 2022. Although the subscription price is low in relation to the fundamentally calculated value of the company, there may be other reasons based on, for example, psychology or technical analysis that keep the price down until then. The fact that the company is dependent on TO 1 can be a factor in itself that creates uncertainty among investors.

Like many biotech companies, Modus is dependent on future capital issues for the development of the company's drug candidate. We see it as a central part of the company's strategy that TO 1 is subscribed for further financing of sevuparin's development. If this is not achieved, it is likely that more capital will need to be raised.

The share prices of early pharmaceutical companies are often affected by various triggers, typically the press release from the company about various value-adding events, while there tends to be silence in between. Top-line data from the phase 1b provocation trial are scheduled to be presented during the second to third quarter in 2022. This is the most important trigger until the subscription. There is a great risk that it will occur after the subscription period. The company may be dependent on a positive news flow prior to the subscription period to keep the share price above the subscription price.

Valuation

Fair Value

To calculate a fair equity value of Modus, we have used a risk-adjusted DCF model. In the model, we calculate the value of future expected cash flows with a discount rate of 15.9 percent. Through this method, we calculate a fair equity value for Modus, pre-money, of **SEK 234 million**. This set be put in relation to the fact that the company should theoretically be valued as a phase 2-ready company with a somewhat shorter patent period left. Translated to value per share, this corresponds to **SEK 21.7**.

In connection with the IPO, units containing one new share and a warrant (TO 1) will be issued. A large part of the fundamental value based on our pre-money valuation will be carried over to the warrants. Assuming that the warrants (TO 1) are exercised, the fundamental value for existing shareholders is calculated at SEK 15.8 per share after full dilution from TO 1.

Summary of valuation, base case scenario

	On the market	Top sales (USDm)	LOA	rNPV (SEmK)	Assumptions
Sevuparin	2028–2036	1627	9,4%	248	USD 300m mile stones, 15 % royalties
General costs				-19,7	Until H1 2024
Cash				6,0	
Total				234	
Per share				21,7	10,764 million shares
Rights issue and TO 1				70,6	10,313 million new shares
Per share efter full dilution				14,5	

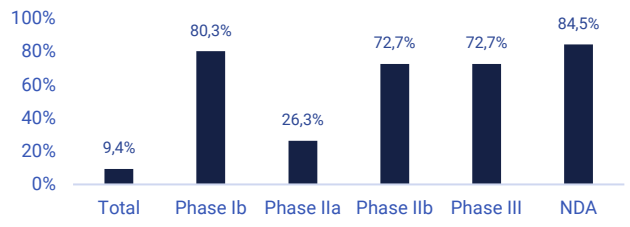
Källa: Carlsquare prognoser

We forecast top sales of USD 1,643 million in 2036. We expect the company to license the candidate after a completed phase 2a trial with the terms USD 300 million in upfront and milestones, of which USD 30 million upfront, and 15 percent in royalties. We expect the patent to be extended until 2036, which is the last year that the company receives royalties. However, we assume a relatively low total value of upfront and milestones given the remaining short patent period. Thus, the greater part of the fair value of sevuparin lies in assumed royalties.

Probabilities

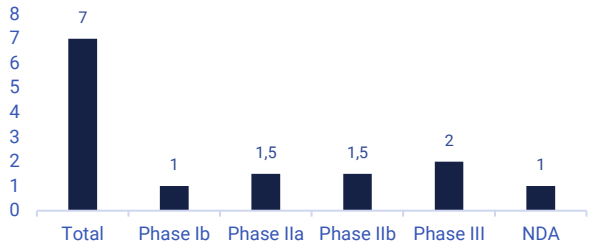
We have used the probabilities below for each phase, based on statistics for cardiovascular candidates, and the time periods below, for each phase. We have reduced the risk in phase 1b by half based on the company already having passed a phase 1 trial. The reason why we do not set 100 percent is that there is a theoretical risk that the provocation trial might not provide a good enough basis for continuing with a phase 2a trial. The fact that the project would be closed down due to toxicity or other pharmacological reasons at this stage can in principle be ruled out. Since the company sees an opportunity to extend the phase 2b trial so that it becomes a phase 3 trial, we have distributed the statistical probability of completing a phase 3 trial on these two trials. Sepsis studies can be managed fairly quickly because it is an acute condition that is treated within 7-14 days in an intensive care unit. Thus, no long-term studies of several years are needed for this indication. Regulatory authorities (FDA, EMA) should be benevolent and help speed up studies if efficacy can be demonstrated. Expecting it to take as long as seven years to get all the way to the market gives some margin for delays.

Probability of passing each regulatory phase



Source: academic.oup.com/biostatistics/article/20/2/273/4817524

Time to approval in number of years



Source: academic.oup.com/biostatistics/article/20/2/273/4817524

WACC

The required return on equity is calculated using the CAPM model. In the model, we have assumed a risk-free interest rate of zero percent and a beta value of 1.2x. The market risk premium is assumed to be 6.7 percent in line with PwC's "Risk premium in the Swedish equity market" from June 2021. To the market risk premium, we have added a small company premium of 4.6 percent, which corresponds to the small company premium for a company with a market value of less than SEK 100 million. The risk-free interest rate has been set at 0.3 percent. Furthermore, we have assumed that the group finances itself with 100 percent equity. We have added a company-specific premium of two percent to take into account that this is a one-project company in early drug research with limited cash, which entails additional risks compared to small companies that already have sales. The discount rate is thus calculated at 15.9 percent with these assumptions.

Valuation interval

To find a valuation interval, we have analyzed possible outcomes in the company in 6-12 months' time. Results from the phase 1b trial should be announced during this period. We see no major risks with this, and thus no unusually large upside or downside. The large watershed is, in our opinion, the phase IIa trial where proof-of-concept is to be shown. We have calculated a probability of only 26.3 percent for this to succeed. Thus, the up-side is very high for those who have an investment horizon of two to two and a half years if this trial were to succeed.

Bull and bear case

To obtain an upper limit in a valuation interval, we have set the probability that phase 1b is successful to 100 percent and otherwise made the same assumptions as above. **This leads to an equity valuation of SEK 298 million or SEK 27.7 per share.**

The upper limit in the valuation interval is calculated at SEK 334m.

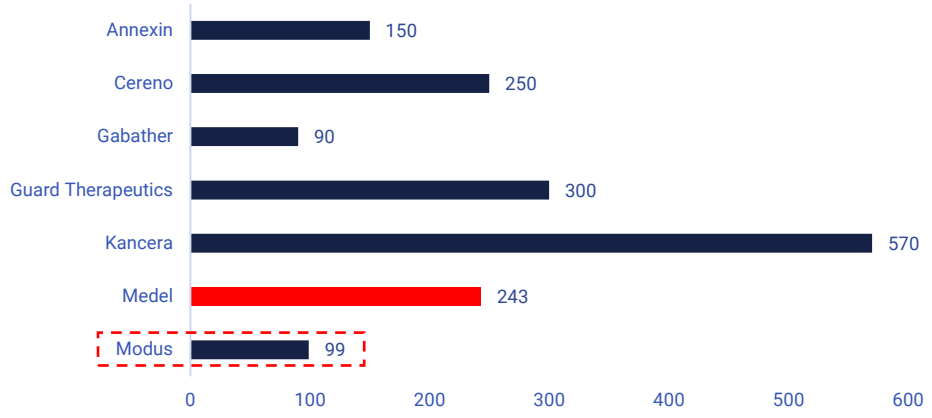
To obtain a lower limit of the interval, we have reduced the probability that phase 1b is successful results to 60.6 percent. **This leads to an equity valuation of SEK 170m or SEK 15.8 per share.**

The lower limit in the valuation interval is calculated at SEK 191m.

Valuation: comparable companies

We have listed a number of pharmaceutical companies with a focus on one candidate at Spotlight and First North in the same phase as Modus Therapeutics, that is with a completed phase 1 trial. On average, these have a market capitalization of SEK 243 million (Modus is included in the calculation of this average). We state Modus value as the pre-money valuation plus the cash received from a fully subscribed listing issue below, that is at 99 million. This is a low valuation compared to other companies in the list.

Market cap of comparable companies with a completed phase 1 trial



Källa: Carlsquare prognoser

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