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Stimulating growth – creating value

Full spectrum life science investments

In 2009, Novo A/S significantly increased its commitment to the life science industry. We created Novo Growth Equity, a team that invests in promising, late-stage, private and publicly listed life science companies. With this addition to the family, Novo's life science investment activities cover the entire range from concept-stage projects to companies launching their products globally.

Novo's unique funding structure – an evergreen fund with the Novo Nordisk Foundation as the sole investor – allows the Growth Equity team to make long-term investments, avoiding many of the restrictions associated with traditional funds with pre-defined life spans.

Our investment philosophy

The rationale behind our growth equity investments is to provide transformational capital and support to help successful companies become self-sustainable. Novo Growth Equity is mandated to invest up to DKK 1 billion annually in companies with products in late-stage clinical and early-stage commercial development. The companies we seek out are based on unique science; they promote compelling and commercially relevant products and show insightful leadership. By being actively involved in these companies, we leverage our financial capacity and long-term focus.

Our ambition is to act as a catalyst for change in the often difficult transition phase that companies go through as they transform from a clinical/product development company to a company driven by a commercial mindset.

A typical Novo Growth Equity investment:

- / ranges between USD 20-50 million (or more, if necessary);
- / is made in equity or converts (or a combination of both); and
- / has an ownership stake between 15-49%.

An active partner

With Novo Growth Equity as an investment partner, portfolio companies have access to considerable financing capacity and an international network of life science stakeholders. In addition, we help our portfolio companies access a wide range of professional competences. The members of our Growth Equity team have considerable clinical, operational and strategic expertise gained from working in, or with some of the best life science companies in the world. With such expertise at hand, we can help companies achieve ambitious business goals.

Novo Growth Equity is an active, responsible and forward-looking shareholder that offers:

- / an involved and pragmatic approach to investing;
- / strong commitment to real value creation;
- / ongoing support until results materialise;
- / access to an extensive network of international specialists; and
- / strong ties to key industry stakeholders in Scandinavia, Europe and the US.

A catalyst for growth

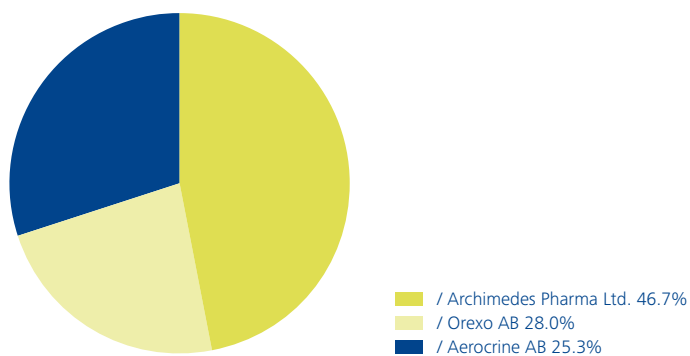
By investing later in the life cycle of promising life science companies, our investment decisions are based on data where major technological and clinical risks are eliminated. Life science technologies hold vast potential, but careful execution is critical if companies are to reach their full potential in a timely and cost-effective way. Our aspiration is to catalyse value in portfolio companies, but we focus on advancing companies – not on financial engineering or fluctuating market sentiment.

Growth investment overview

In 2010, Novo Growth Equity invested DKK 725 million in three European-based companies:

Company	Country	Initial investment	Instrument	Ownership stake (fully diluted/converted)		
				10-20%	20-40%	>40%
Archimedes Pharma Ltd.	UK	February, 2010	Equity		■	
Orexo AB	Sweden	April, 2010	Equity + convertible debt		■	
Aerocrine AB	Sweden	September, 2010	Equity + convertible debt		■	

Percentage of portfolio



Archimedes Pharma Ltd.

– marketing and selling specialist products within the oncology, pain, neurology and critical care sectors



Breakthrough Cancer Pain significantly reduces quality of life

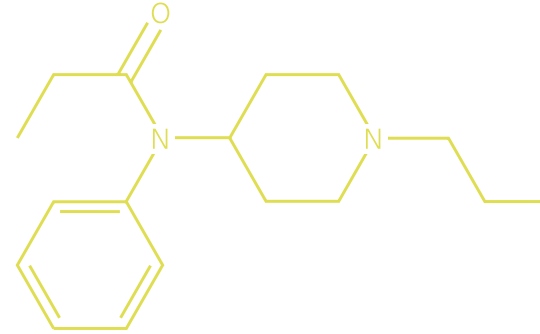
Patients with cancer pain usually experience a persistent discomfort known as 'background pain', which is normally controlled with slow release painkillers (morphine or other opioid drugs). Despite background pain medication, about 40-80% of all cancer patients with pain, experience breakthrough cancer pain (BTCP) – often several times a day.

BTCP is characterized by sudden episodes of intense pain, which either occur quite suddenly or are brought



on by a particular activity such as a certain movement. The pain is rapid in onset, usually reaching maximum intensity in five minutes. A BTCP episode may last 30 minutes or longer.

Such excruciating pain has a major negative impact on a patient's quality of life. Simple but important things, such as enjoying the company of family and friends, sleeping well, maintaining an appetite and being out of bed become almost impossible if these pain episodes are not optimally medicated.



Archimedes Pharma was in the final process of filing for approval of PecFent® – a fentanyl nasal spray for the treatment of breakthrough cancer pain (BTCP) – when it was faced with a choice: to partner the product or launch it itself on the US market. The company decided to accept Novo's proposal to provide the necessary financing for the US launch of PecFent® – a product that has the potential to transform Archimedes Pharma.

The financing, led by the Novo Growth Equity team on behalf of Novo, was announced in March 2010, together with the announcement of new leadership in the form of Jeffrey H. Buchalter, CEO. Raising GBP 65 million in financing, the transaction is one of the largest ever made in a European private biotech company. The new capital enables Archimedes Pharma to execute its global launch plans, and provides Novo with the opportunity to be an active and influential owner, helping the company to realise its full potential.

PecFent®

PecFent® uses Archimedes Pharma's patented drug delivery technology, PecSys™. A nasal pump produces a fine mist of droplets that are deposited into the front of the nostril where a thin gel layer is formed. This allows fentanyl to be delivered in a manner that is optimal for a typical BTCP episode.

The PecSys™ technology avoids the problems associated with simple solutions used in nasal sprays, such as dripping or swallowing of the drug solution.

PecFent® offers faster pain relief compared to other fentanyl products, and it is particularly suited for the many cancer patients suffering from dry mouth or other complications that make orally administered products unattractive.

Key milestones achieved in 2010:

- / PecFent® obtained EU marketing authorisation for the treatment of BTCP in adults who are already receiving maintenance opioid therapy for chronic cancer pain. The product was successfully launched in the UK, Ireland and Germany.
- / A strong executive team was created comprising individuals with vast industry experience from both Europe and the US.



A few facts about Archimedes Pharma Ltd.:

- / Founded in 2004
- / Headquartered in Reading, UK
- / Major investors include Novo A/S and Warbug Pincus
- / Status: Private company
- / Turnover ~ USD 36 million
- / Novo's representatives on the Board of Directors: Göran Ando, member of the board of Novo A/S, and Ulrik Spork, Managing Partner. Michael Shalmi, Senior Partner, holds an observer position.
- / www.archimedespharma.com

Orexo AB

– discovering and developing new products for the treatment of pain and inflammation



Fentanyl – a highly effective opioid with a rapid onset and short duration of action



Does the world need another Fentanyl? Yes, two in fact!

In early 2010, Novo closed its first two growth equity investments. Both were made in specialty pharma companies with major focus on fast acting fentanyl-based products for the treatment of BTCP: PecFent® from Archimedes Pharma Ltd., and Abstral® from Orexo AB.

During our reviews of Archimedes Pharma and Orexo, we became convinced of the exciting therapeutic and market potentials of both products. PecFent® and Abstral® are clearly differentiated through the way



they deliver fentanyl, but we believe they both have the potential to become best-in-class products for BTCP treatment.

These two products represent a major step for Orexo and Archimedes Pharma – and for cancer patients with BTCP. With Abstral® or PecFent®, BTCP sufferers can look forward to a significantly improved quality of life during the terminal stages of their illness.

In the due diligence process, which ultimately led to Novo's investment in Archimedes Pharma Ltd., we analysed the markets for therapeutic treatment of breakthrough cancer pain (BTCP). Orexo AB stood out among the companies working in this therapeutic field.

Over the years, Orexo has developed its technological expertise within drug formulation and administration and built an extensive project portfolio through in-house development and acquisitions (Sweden-based Biolipox AB in 2007, and UK-based PharmaKodex Ltd. in 2009).

Orexo's proprietary technology of rapidly dissolving tablets for sublingual administration has resulted in commercial products such as Edluar™, a treatment for insomnia, and Abstral®, a treatment for BTCP. Abstral® has been successfully launched in the EU and is the key value driver of Orexo.

Abstral® is a fentanyl preparation approved in the EU and the US for the management of BTCP in adult patients using opioid therapy for chronic cancer pain. The product is partnered with the UK-based ProStrakan for commercialisation in the EU and the US, and reached sales of SEK 183 million in 2010.

Abstral®

Abstral® is a proprietary tablet formulation of fentanyl and mannitol, which, when placed under the tongue, dissolves in 15-30 seconds. The tablet formulation not only makes it very easy to administer fentanyl; it also allows the drug to be effectively absorbed through the mucosa lining in the oral cavity.

Compared with other buccally administered products, Abstral® has two unique advantages: a faster onset of pain relief, and a lesser degree of dependence on saliva production for dissolving of the tablet once placed under the tongue.

Key milestones achieved in 2010:

- / The Board of Directors announced a revised strategic focus and forthcoming change of CEO.
- / Orexo entered an R&D alliance and license agreement with Ortho-McNeil-Janssen Pharmaceuticals Inc. and Janssen Pharmaceutica NV for the company's small-molecule treatments for asthma (COPD) and other inflammatory diseases.
- / The R&D alliance with Boehringer Ingelheim on novel small molecule treatments for mild/moderate pain relief reached a significant milestone as a lead compound was advanced to drug development stage.

orexo

A few facts about Orexo AB:

- / Founded in 1995
- / Headquartered in Uppsala, Sweden
- / Major investors include Novo A/S and HealthCap
- / Status: Public company. Traded on the Stockholm Stock Exchange since 2005. Code: ORX
- / Turnover ~ USD 34 million
- / Novo's representative on the Board of Directors: Michael Shalmi, Senior Partner
- / www.orexo.com

Aerocrine AB

– improving treatment for patients with inflamed airways



'After all, does anyone seriously advocate treating hypertension without measuring blood pressure or kidney disease without knowing the GFR? Neither seems to me to be any dafter than using anti-inflammatory medications without measuring inflammation.'

Andrew Bush

MD on the use of NIOX MINO® as an 'inflammometer'.

Around 300 million people worldwide have asthma. And this figure is expected to increase. Recent estimates predict that by 2015 up to 450 million people – adults as well as children – will be diagnosed with asthma, making this condition a critical issue on the global health agenda.

Asthma is a chronic inflammatory disease of the pulmonary airways, which leads to periodic airflow limitation and an increased sensitivity and response to allergens. The symptoms are very unpleasant for patients and significantly reduce their quality of life. If left untreated, asthma is also known to cause long-term loss of lung function.

Despite the fact that asthma is a chronic inflammatory disease, current practice does not include assessment of lung inflammation. The best way to accurately diagnose and monitor allergic asthma, the most common form of asthma, is to measure exhaled nitric oxide (FENO), which is a marker of eosinophilic airway inflammation. This method was identified by scientists at the Karolinska Institute in Sweden and is the basis on which the Swedish company Aerocrine was founded in 1997.

NIOX MINO®

Aerocrine's first device for measuring FENO, an 'inflammometer', was approved in Europe in 2000, and then three years later in the US. Now, the third generation of the product, the NIOX MINO®, is being marketed

worldwide. Aerocrine is also in the process of developing a portable, handheld device for the home-monitoring market, the NIOX PRIO®, in partnership with Panasonic.

Easy to use and non-invasive, Aerocrine's NIOX products are effective new tools for the diagnosis of allergic asthma and valuable aids in the treatment of this condition.

We believe that Aerocrine possesses best-in-class technology and a dominant IP position for diagnosing and monitoring inflammation in asthma. To enable the company to further develop its technology platform and significantly expand its commercial reach, we provided growth capital and became a major shareholder in Aerocrine in September 2010.

Key milestones achieved in 2010:

- / Market introduction of the third generation product, NIOX MINO®.
- / Acquired the business and IP assets from the bankruptcy estate of Apieron Inc. (owner of the Insight™ FENO measuring device), and now in control of all relevant IP in the FENO diagnostics field.
- / In a consensus paper, prominent asthma clinicians and researchers in the US recommended that FENO should be used to monitor inflammation as part of the routine clinical management of asthma.

Aerocrine

A few facts about Aerocrine AB:

- / Founded in 1997
- / Headquartered in Solna, Sweden
- / Major investors include Novo A/S, Investor Investments Europe Ltd. and HealthCap Holdings KB
- / Status: Public company. Traded on the Stockholm Stock Exchange since 2007. Code: AERO
- / Turnover ~ USD 20 million
- / Novo's representative on the Board of Directors: Scott Beardsley, Senior Partner
- / www.aerocrine.com

Market perspectives – 2010 and beyond

The public markets – strong finish despite volatile beginning

2010 was a volatile year for public equities as investor sentiment shifted in response to mixed signals regarding the course of global economic recovery as well as fiscal and monetary stimulus policies. Despite the turbulence and significant swings in the public markets, the upswing in investor sentiment in late 2010 led to a surge in stock prices and positive returns for life science stocks. This positive momentum bodes well for a good start to 2011 for life science companies.

Public financings – cautious optimism for IPOs going forward

Public companies looking to access the financial market were forced to be opportunistic to take advantage of individual stock price movements and brief periods of positive investor sentiment towards the life science industry. Overall, equity fundraising by public companies in 2010 was far better than 2008 and roughly equivalent in terms of number of deals compared to 2009.

Of particular interest to many private growth equity companies was the question of receptivity of the market to IPOs. Unfortunately, the majority of institutional investors remained very wary of IPOs in 2010, and the execution of many of those deals was challenging. However, 31 life science IPOs did get through in the US, EU and Asia, raising a total of USD 1.6 billion (2009 saw 10 companies raising USD 0.9 billion). Approximately half of those IPOs were done by private biotechnology and specialty pharmaceutical companies in the US or EU.

For significant biopharma IPOs completed in the US, institutional investors:

- / focused almost exclusively on later-stage companies that were entering pivotal trials or later (42% of funds raised from the public markets in 2010 was for commercial-stage companies/growth equity investments);
- / demanded significant discounts to filing prices (median file to offer discount was ~40%); and
- / required significant insider participation (median insider participation was ~35%).

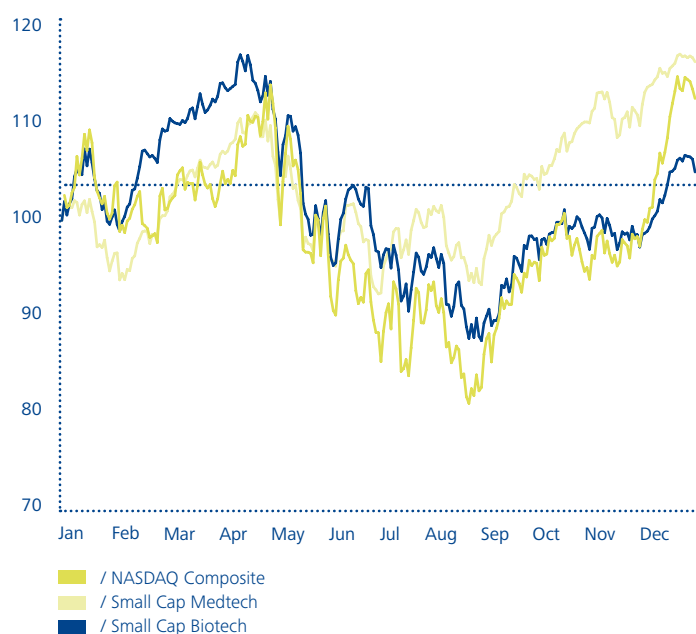
About half of the biopharma IPOs completed in the US were priced at pre-money valuations below the post-money valuation of the last round. Institutional investors on the French and Danish exchanges, however, were a little more kind to companies looking to go public.

A positive year for M&As

M&A remained a bright spot for the life science industry in 2010. There were 58 public and private M&A transactions greater than USD 100 million completed in the life science sector in the US and EU. This total is greater than the industry witnessed in 2009 or 2008.

Growth equity companies continued to be a focus for acquirers as most consolidators employed acquisition strategies to help drive near-term top-line growth. Growth equity-stage companies should continue to enjoy increasing focus from consolidators as the need for big cap pharma, biotech and medtech companies to generate revenue and earnings growth becomes more urgent, and the acquisition financing market continues to improve.

2010 market performance



Looking ahead

While in no way immune to the markets in 2010, growth equity companies and investors were generally better off than many of their earlier-stage peers as both markets and consolidators continued to increase their focus on later-stage stories and assets. The private venture financing was under pressure in 2010, but the total amount of financing came to USD 5.4 billion on a worldwide basis, slightly up from previous years.

In many aspects, 2011 appears to be heading for a better start than 2010. The broader markets are more positive regarding the prospects of a growing global economic recovery. Life science indices are once again approaching levels not seen since 2002; public follow-on financings are performing; and investors seem eager to put money to work. The IPO market is likely to remain challenged in 2011, but recent, completed deals suggest that there is a potential for investors to make money by investing in IPOs for the first time in several years. Given the later-stage nature of growth equity stories, well-managed growth equity companies should be well-positioned to take advantage of those trends.