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ANNUAL GENERAL MEETING

The Annual General Meeting of Karo Bio AB (publ) will be held on Wednesday April 21, 2004 at 4.00 p.m. at Grünewaldsalen, Stockholm Concert Hall, Stockholm, Sweden. The Notice for the Annual General Meeting is available on Karo Bio's web site at www.karobio.com/agm

Right to Participate

To be entitled to participate in the general meeting, share-holders must have their holdings registered in their names at the Swedish Securities Register Centre (VPC AB) by April 8, 2004, and must notify the Company of their intent to participate in the meeting by no later than April 19, 2004 at 4.00 p.m.

Notice

Notice of intent to participate in the Annual General Meeting shall be made in writing, including name, address and telephone number, either via mail to Karo Bio AB, Novum, SE-141 57 Huddinge, Sweden, fax +46 8 774 52 80, e-mail agm@karobio.se or on Karo Bio's web site at www.karobio.com/agm

Share registration

Shareholders whose shares are registered under the name of a nominee through a bank notary department or other nominee must, to be entitled to participate in the general meeting, temporarily register their shares in their own names. Such registration must be in effect no later than Thursday April 8, 2004, which means that shareholders must notify their nominee well in advance of that date.

SCHEDULED INFORMATION EVENTS

Annual General Meeting, April 21, 2004 Quarterly Report, January-March, April 23, 2004 Quarterly Report, April-June, July 13, 2004 Quarterly Report, July-September, October 15, 2004 Earnings Report for 2004, February 8, 2005

FURTHER INFORMATION

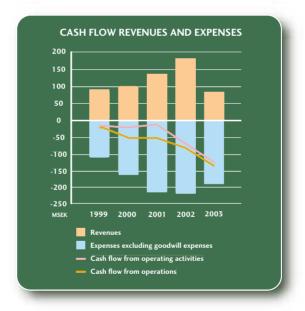
Financial reports, press releases and other information are available on Karo Bio's web site. Karo Bio's financial reports and press releases may be downloaded and subscribed to on the web site at www.karobio.com/finance Financial reports are available on the web site upon release.

Karo Bio has electronic distribution as the primary mean for distribution of financial reports. The annual report will be mailed to shareholders and others specifically subscribing to the printed version. Printouts of quarterly reports are mailed upon request. For further information, please contact Björn Nilsson, President & CEO, tel. +46 8 608 60 20, Per Otteskog, Senior Vice President, tel. +46 8 608 60 18, Bertil Jungmar, Chief Financial Officer tel. +46 8 608 60 52, or e-mail: investor@karobio.com

2003 in Brief

- A preclinical milestone for a second compound was reached and a milestone payment was received in May in the Merck & Co., Inc. collaboration.
- In August Merck & Co., Inc. decided to discontinue the development of the first drug candidate selected in 2002.
- Karo Bio obtained all rights to compounds and technologies, including the A-348441 lead compound, in the collaboration with Abbott Laboratories in November, Karo Bio has selected the A-348441 compound from the Abbott collaboration as a candidate drug for type 2 diabetes.
- A reorganization and consolidation of research operations to Sweden was carried out in January and November, resulting in lower cost-base and increased efficiency.
- A fully subscribed new share issue was successfully completed in May, generating MSEK 118.6.
- Net sales for the full year amounted to MSEK 85.1 (177.7).
- The loss, including goodwill expenses, decreased to MSEK 208.7 (284.4). Operating loss excluding goodwill expenses amounted to MSEK 124.8 (58.8).
- Cash flows from operating activities amounted to MSEK -128.6 (-70.9). Cash and cash equivalents and short-term investments amounted to MSEK 184.0 (201.2) at the end of the year.
- Loss per share amounted to SEK 13.76 (22.19).

REVENUES AND EXPENSES 500 450 400 350 300 250 200 150 100 2001 Goodwill expenses Other operating income and expenses Research & development expenses inistrative and other expenses Revenues



Legal Disclaimer

This Annual Report includes statements that are forward-looking. and actual results may differ materially from those stated. In addition to the factors discussed, among other factors that may affect results are developments within research programs, including development in preclinical and clinical trials, the impact of competing research programs, the effect of economic conditions, the effectiveness of the Company's intellectual property rights and preclusions of potential third party's intellectual property rights, technological development, exchange rate and interest rate fluctuations, and political risks.



Introducing Karo Bio

Karo Bio is a drug discovery company focusing on nuclear receptors, an important class of drug targets for the development of novel pharmaceuticals in major disease areas. Karo Bio has a strong project pipeline and is involved in major strategic collaborations with several of the world's leading pharmaceutical companies in clinical areas such as, obesity, atherosclerosis and women's health care.

Karo Bio is located in Novum Research Park, close to Karolinska University Hospital in Huddinge. The Company employs 99 people of which 78 are engaged in scientific operations, and half of whom hold doctorate degrees (Ph.D.). In addition, Karo Bio maintains an academic network including, several leading centers engaged in nuclear receptor research.

FOCUS ON NUCLEAR RECEPTORS

Nuclear Receptors

Nuclear receptors are proteins in the cells that help regulate many organs in the body. Understanding nuclear receptors allows the development of new drugs with fewer or no side effects. These drugs address some of the world's major diseases and have a great market potential. Nuclear receptors are the second largest class of drug targets. Based on the sequence of the human genome, it appears that there are between 50 and 70 receptors, but only a few are proven as pharmaceutical drug targets.

The hormones or vitamins that act via these receptors are active in all organs in the body. The discovery that new chemical compounds with different receptor or tissue selective effects can be developed is opening up new possibilities for developing drugs with an improved safety and efficacy profile compared to drugs currently on the market.

For every single receptor, the number of possible clinical applications is also increasing over time as understanding of the genome and its role in health and disease conditions deepens.

CLINICAL DEVELOPMENT

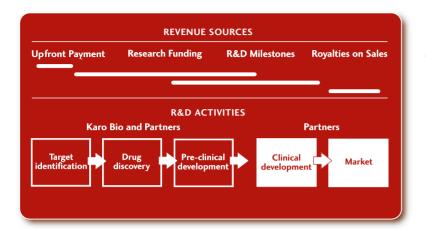
Karo Bio is taking advantage of opportunities in the field of nuclear receptors. The Company has established a technology that enables the discovery and selection of tissue selective compounds with high potency and improved safety margins, and is in the forefront of developing new medical treatment. This has been made possible thanks to instances of highly productive scientific collaborations that have led to new opportunities, either through the new understanding of the role of known receptors in disease development or through the discovery of new receptors.

COLLABORATIONS WITH PHARMACEUTICAL COMPANIES

Karo Bio discovers and develops drugs, from early drug discovery through to clinical trials, in collaboration with major pharmaceutical companies. The Company provides advanced drug discovery technologies and the partner provides significant R&D resources as well as medical and development competence. Typically, Karo Bio provides 10-15 scientists in the collaboration, with the partner adding more. The partner also covers all development costs and is responsible for marketing and sales, which means that Karo Bio can run several projects in parallel. The drug discovery phase normally consists of an initial three-year period that is often prolonged. Once the active collaboration phase has come to an end, Karo Bio regains the rights to its technologies and can enter into new collaborative arrangements, even if the previous partner proceeds with clinical studies.

Collaborations in potential blockbuster areas represent a significant upside potential within the Company and validate Karo Bio's innovative clinical concepts and its leading drug discovery technology. By entering into partnership early, many of the associated risks are also diminished. There are, however, carefully selected areas where Karo Bio is prepared to bring compounds to the clinical stage before acquiring a partner.

Examples of Karo Bio's collaborations include Wyeth Pharmaceuticals (atherosclerosis), Bristol-Myers Squibb (obesity) and Merck & Co., Inc. (estrogen receptors, including women's health care).



Karo Bio retains rights to its technology and after completion of joint drug discovery and preclinical development Karo Bio shall start new projects with the aim for new strategic collaborations.

Revenues

Karo Bio receives revenues from nuclear receptor collaborations in four ways:

- Upfront payments are received when the collaboration is initiated.
 The amount is dependent upon the Company's technology, the
 project's development phase, the extent of the collaboration
 and the number of potential applications. Upfront payments
 are usually in the range of MSEK 10 100.
- Research funding is received as a fixed amount for each research scientist engaged in the project. Remuneration is paid for the term of the research collaboration, usually three years, and may only be discontinued under extraordinary circumstances.
 Each project usually starts with 10-15 scientists, and as the project proceeds towards development Karo Bio's resources are gradually reduced.
- Milestone payments are triggered when the compound enters or
 passes a major, predefined step in the development process. The
 first milestone payment is usually paid when efficacy has been
 achieved in various animal models, and the last payment falls
 due when the drug has finally been registered. A compound that
 completes all the steps in the development process reaches four
 to ten milestones, for a total of MSEK 150 500.
- Royalties are based on the partner's total sales of products
 developed within the framework of the collaboration. The royalty
 rate is usually within the range of 7-15 percent of sales revenues, depending on the structure of the collaborative agreement.
 The royalty rate may vary for an individual compound, depending on the sales revenue of the product. An additional sales
 bonus applies in one agreement.

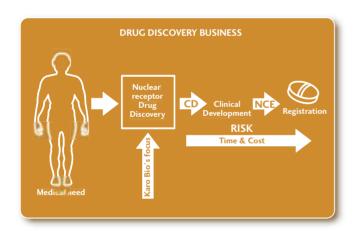


Statement by the President

2003 has been an eventful year for Karo Bio. Below, I summarize the most important events in relation to Karo Bio's business environment. I hope this analysis will be of help when assessing Karo Bio's future opportunities.

2003

2003 has been a transition period for Karo Bio in that the joint drug discovery phase was completed in our strategic collaborations with both Bristol-Myers Squibb and Abbott Laboratories. The discovery research phase with Merck was completed in October 2002. We have, therefore, reallocated significant R&D resources to internal projects in 2003 and experienced a substantial reduction in R&D funding during the year. We were involved in two active drug discovery collaboration projects during 2003; one with Wyeth Pharmaceuticals for the full year and one with Bristol-Myers Squibb that ended in March.



Clinical Development is associated with high risk and high costs and requires considerable resources and development skills. To reduce project and corporate risks, Karo Bio is focusing on drug discovery that targets nuclear receptors with the aim of generating candidate drugs (CD). Clinical Development is mostly conducted in collaborations with pharmaceutical companies. The partners are responsible for taking new chemical entities (NCE) to the market.

The discontinuance of the joint GR diabetes collaboration by Abbott Laboratories gave us an exciting opportunity. We now have all rights to a very promising program. The preclinical data suggests that this could be a very interesting compound for treatment of type 2 diabetes. I discuss this opportunity in further detail in the review of R&D progress. Although Abbott would have been an excellent partner, we feel that the acquisition of rights to this compound provides an even greater opportunity for Karo Bio.

Revenues

The reduced R&D funding will be offset with new strategic collaboration ventures. Karo Bio is in continuous discussions or negotiations with a number of pharmaceutical companies regarding new collaborations. Whereas it is difficult to predict when a new strategic collaboration agreement can be signed, we feel that we have progress in several areas that will be attractive to the industry.

This was the main reason for the decision to raise new money for Karo Bio in the spring of 2003 through a new share issue. The new share issue of MSEK 118.6 was successfully concluded in May 2003, providing a boost to Karo Bio's cash position.

During the subscription period, a substantial milestone payment from Merck & Co., Inc. was triggered by their selection of a second drug candidate in the estrogen receptor program. This further strengthened our cash position. However, more importantly, this selection by Merck increased our optimism that this program will be successful.

Nevertheless, Karo Bio needs strategic collaborations to bring in enough revenues from R&D funding and milestone payments. It was, therefore, disappointing that Merck & Co., Inc. in August 2003 discontinued the development of the first drug candidate selected in mid 2002.

Focus on prioritized activities

During the year we downsized the Company to reduce cash burn while keeping momentum in our highest priority activities. The downsizing represented continuation of a restructuring program initiated in 2003 when we reduced our biology resources and strengthened medicinal chemistry. The North Carolina site was mainly focused on biology and earlier stages of drug discovery, and as the important parts of that technology had been transferred to Sweden it was logical to close the North Carolina site.

We have significantly strengthened our resources in pharmacology during the year to improve capabilities in biological characterization of our compounds and to supply medicinal chemistry with important data for the compound selection process.

Karo Bio is now a lean company with great opportunities for the future. The restructuring of the Company is an important step in our strategy to take Karo Bio to the next level.

R&D PROGRESS

Our program with Merck & Co., Inc. in the field of women's health care has made good progress in the year with the selection of a second drug candidate. Merck plans to evaluate additional compounds for further study. Our joint project together with Bristol-Myers Squibb for treatment of obesity with a modulator for the thyroid hormone receptor has delivered convincing proof of concept. We were pleased to have key data published in the prestigious journal Proceedings of the National Academy of Sciences USA. Work on the selection of a new drug candidate for clinical trials continues with high intensity.

The collaboration with Wyeth Pharmaceuticals for treatment and prevention of atherosclerosis was upgraded during the year and is progressing towards selection of a candidate drug.

We are very pleased to have had Abbott Laboratories as a partner. Together, we have developed an innovative and promising way to treat type 2 diabetes by designing chemical compounds that antagonize the effect of glucocorticoid hormones in the liver. We have also discovered a promising compound, KB3305 (previously A-348441), which has a unique and competitive profile in various diabetic models. Based on an enormous body of preclinical data, Karo Bio has selected this compound as a candidate drug and we intend to move the compound forward towards clinical evaluation. There is a great need for new diabetes drugs that are more effective in lowering blood glucose and reduce other risk factors for diabetics such as triglycerides and free fatty acids. The KB3305 compound meets these criteria

in animal studies. I see this compound as one of our greatest opportunities to move forward and build substantial value in the Company.

New internal projects

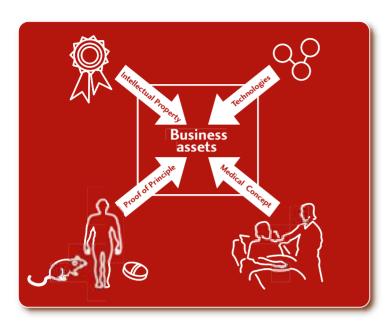
During the year, Karo Bio launched two additional internal drug discovery projects, one in the field of estrogen receptors (ER) and the other in the field of thyroid hormone receptors (TR). We have made excellent progress with both projects, and lead compounds have been identified.

In the ER field, we are exploring various new clinical indications for the estrogen receptors while in the TR area we are focusing on a new way to treat high cholesterol and blood lipid levels. The focus is on selective thyroid hormone agonists for the treatment of dyslipidemia (such molecules are known as "STADs") and we are receiving major interest from the market in this pioneering project. So far, over a short period of time we have discovered lead compounds that are very effective in lowering blood

One of Karo Bio's most vital assets is its focus on nuclear receptors as drug targets. These receptors are important drug targets and they increase in importance with the generation of new knowledge and new technologies. Our deep understanding of nuclear receptors has enabled us to build new medical concepts for the treatment of major diseases and to start pioneering drug discovery projects with pharmaceutical partners.

lipids in animals. I believe that STADs have the potential to become effective chemical compounds for treatment of the increasing problem associated with high blood lipids, which are risk factors for the development of cardiovascular disease.





Karo Bio has been able to establish several major strategic collaborations with pharmaceutical companies. The main business assets behind these collaborations have been Karo Bio's access to innovative clinical concepts, to enabling drug discovery technologies, to a strong patent position and to proof of principle data that support the validity of the medical concept.

Other areas of progress

Significant progress has been made in many other areas. During the year, we solved the crystal structure for the mineralocorticoid receptor, which we feel will be a major target for treatment of heart failure and hypertension. Access to this structure gives us a competitive advantage for improvement of existing drugs that target hypertension and heart failure.

Considerable progress has been made in the androgen receptor project (AR) where we are developing antagonists for treatment of prostate cancer. New series of lead compounds have been discovered, and promising results have been obtained in animal models. We are proceeding with animal prostate cancer models and the results are very encouraging.

KARO BIO AND THE MARKET

Meeting pharmaceutical companies' needs

The future business opportunities for Karo Bio are based on the pharmaceutical industry's need for innovative projects. Many drugs have come off patent protection and there is an increased competition from generic drugs. The gap in the pharmaceutical companies' pipelines has not been improved through the numerous mergers and acquisitions of the past few years. In fact, the number of products launched has been going down significantly in recent years. Among new drugs registered on the market there is an increasing number of products of biotech origin, which demonstrates the increasing importance of biotechnology companies in the development of future drugs.

With an ageing population, and the alarming global development of metabolic diseases across the broader population, there is a great need for innovative ways to treat the increasing number of patients that suffer from metabolic disturbances. Therefore, the pharmaceutical companies are looking for innovative approaches to treat diseases and for drugs with different mechanisms of action. Karo Bio has met both these needs in our collaborations with pharmaceutical companies. In fact, in all our completed drug discovery collaborations (with Merck & Co., Inc., Bristol-Myers Squibb and Abbott Laboratories) we have successfully discovered candidates that have met the criteria set for drug candidates. Our strong patent position on targets and technologies has also added to the value in the collaborations.

BUILDING VALUE

The four cornerstones for building value into collaboration agreements with pharmaceutical companies are summarized

in the illustration to the left, and it is my firm belief that Karo Bio has assets of high value and continues to build value in all of the four areas.

We will use our state-of-the-art technologies to discover and develop innovative drugs to treat common diseases. By virtue of our scientific network, we can continue to develop innovative projects that increase our knowledge about nuclear receptors and how they can be affected in order to treat various diseases.

The value that these projects generate will be realized via collaborative projects with global pharmaceutical companies that will be responsible for clinical development, marketing and sales.

Value added in 2003

One criterion for establishing strong collaborations is proof of principle, i.e. there is strong evidence from animal studies or human data that a drug with a certain profile is going to work in specific disease models. We have made important progress in this area and intend to continue building value around compounds by generating important preclinical information. In some cases, we intend to take compounds to human studies.

BUSINESS MODEL

Karo Bio's strong focus on the drug discovery phase relieves us of the heavy costs and risks involved in developing and marketing a new drug. Our strategy involves collaborating with global pharmaceutical companies during the drug discovery and development phases. The partners add knowledge and resources during the discovery phase and have sole responsibility for the development, production and marketing phases.

This model allows us to focus on our core competence and to build a pipeline for future partnerships.

We intend to stay focused on nuclear receptors since their importance as drug targets is continuously growing. Today, we estimate that at least 10-15 percent of the global pharmaceutical market comes from drugs acting on nuclear receptors. I expect this figure to increase substantially as the nuclear receptors are promising intervention points for diabetes, obesity, cardiovascular diseases, inflammation and cancer.

The aim of such collaborations is to provide a revenue stream in the short term from upfront payments, research funding and short- and long-term revenues from milestone payments and royalties. The main generator of value is the royalty from future innovative drugs. Yet another important value generator is the competence the partner provides in the collaboration, competence and experience that go far beyond the level of biotech companies in general.

Timing of collaborations

So far, collaboration projects have been initiated at very early stages in preclinical research, which can be advantageous. However, we are also prepared to take selected projects further towards clinical development to capture greater value. Therefore, we have improved our capabilities

in pharmacology and preclinical development and have thereby committed ourselves to forward integration with the flexibility to be a partner at later stages. We are conducting this shift in a stepwise fashion and only in selected areas.

I remain confident with a partnering business model that enables us to run several parallel projects, which, overall, reduces the risk for the company but maintains the great upside when and if a compound reaches the market.

So far, most of Karo Bio's revenues have been R&D funding, but it is likely that the portion of Karo Bio's revenues attributable to milestone payments will increase as the various collaborative projects progress. I also see significant opportunities to offset the reduced R&D funding in 2003 with new collaboration agreements and great possibilities to develop the Company.

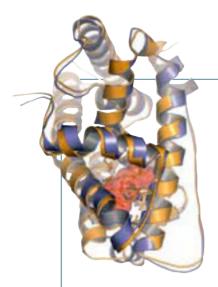
Huddinge, February 2004

in the field of nuclear receptor and protein science-based drug discovery Karo Bio aims to: Develop innovative drugs for major

From a position as a leading company

- markets
- Conduct clinical development, marketing and sales through partners
- Build value by step-wise forward integration for later-stage collaborations
- Finance projects through collaborations
- Generate revenues from milestone payments and royalties

Björn Nilsson, Ph.D. President and Chief Executive Officer



Karo Bio Research

Karo Bio focuses on developing pharmaceuticals that target nuclear receptors for the treatment of common diseases. The research is aimed at the drug discovery phase in drug development, and Karo Bio collaborates with pharmaceutical companies that undertake clinical development and marketing. Apart from these strategic collaborations, Karo Bio's research covers internal projects that will be partnered at various stages and exploratory studies that will be upgraded to projects once clinical indications and receptors are validated.

PROJECT FORMS

Since drug development is associated with high risk, it is essential to maximize the chances of success. Karo Bio is doing so by structuring its project activities in three categories: strategic collaborations, internal projects and exploratory research.

Strategic Collaborations

Nuclear receptors are important targets for the treatment of metabolic diseases such as diabetes, obesity, cancer and atherosclerosis, as well as broad areas such as women's health care.

While the opportunities in these areas are great, they require substantial financial resources, large organizations and considerable experience in drug development. Since clinical development is associated with high risk and since it can benefit from the resources of large pharmaceutical companies, Karo Bio has chosen to seek partners for clinical development in certain areas. In most cases, the collaboration is initiated in the drug discovery phase. This has certain advantages. One is that the scientists in the partner company provide important expertise and resources for selection of the most optimal clinical development candidates. These scientists will become promoters of the project in their own organizations, which means that they will strongly advocate its success. It is Karo Bio's experience that the expertise obtained from the partner and the commitment from the collaborating scientists increases the chances of the project succeeding. Karo Bio can run multiple-partner projects in parallel, which also enhances the Company's opportunities to bring projects all the way to the market.

Internal Projects

Karo Bio maintains a broad portfolio of internal projects that are in various stages of readiness for strategic collaborations. The timing of strategic collaboration is a critical issue, since obtaining maximum commercial value is an important goal. The prerequisites for this are that the project:

- is innovative
- is supported by strong technology
- covers important clinical indications
- offers strong patent protection

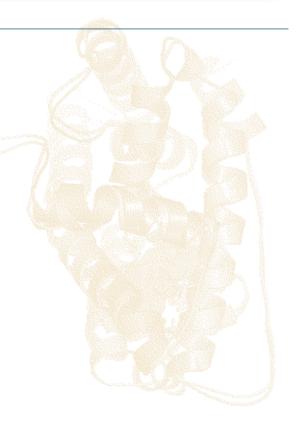
THE KARO BIO PROJECT PORTFOLIO

	Indication and Target Receptor	Target and Indication Validation	Drug Discovery	Pre-clinical Development	Phase I	Phase II	Phase III	NDA
Strategic Collaboration	s							
Wyeth Pharmaceuticals	Atherosclerosis (LXR)		-					
Merck	Estrogen receptors (indication 2)			-				
	Estrogen receptors (ER discovery)		•					
вмѕ	Obesity (TR)			-				
Internal Projects								
Karo Bio	Type 2 diabetes/KB3305 (ex-Abbot) (GR)							
	Prostate cancer (AR)		_					
	Inflammatory diseases (GR)		-					
	(ER)		-					
	Dyslipidemia (STAD) (THR)		—					
Exploratory Research								
	Orphan receptors	-						
	Diabetes (ER)							
	(MR)	—						

In order to develop projects that meet the criteria set out on page 10, Karo Bio conducts exploratory studies internally and in collaboration with academic teams. The exploratory studies are upgraded to internal projects when there is evidence that a receptor is an important target for a certain disease, when Karo Bio is convinced of its competitive advantage and when there is significant market potential for the pharmaceutical products. When projects are upgraded, they are awarded higher priority and allocated greater resources. Projects are marketed to the pharmaceutical industry once a strong proprietary position has been developed and when the clinical rationale is further backed up by experimental data.

Exploratory Research

Karo Bio's exploratory activities are of importance for the project pipeline. Karo Bio has been very successful in developing new technology discovering novel receptors and generating novel clinical strategies. This has been possible through a combination of internal development, technology, in-licensing and academic collaborations.



Strategic Collaboration - Estrogen Receptors

The collaboration with Merck & Co., Inc.

- Initiated November 1997
- ER related diseases
- Joint drug discovery phase completed October 2002
- July 2002 milestone payment received for first compound in preclinical study
- May 2003 milestone payment received for second compound in preclinical study for a second clinical indication
- First compound discontinued in August 2003
- Second compound continues in preclinical study. Additional compounds continue to be studied

Additional comsuboptimal selectivity at the receptor subtype level, something which may contribute to specific side effects.

with menopause.

THE COLLABORATION WITH MERCK & CO., INC.

alleviate the hot flushes and urogenital problems associated

when an academic team at Novum Research Park and

scientists at Karo Bio co-discovered a second estrogen

ER alpha and the new one ER beta. ER beta has tissue

receptor subtype. The original receptor subtype was named

distribution distinct from ER alpha that may contribute to

the tissue selectivity of SERM action. SERMs currently on

the market were discovered prior to the discovery of the

ER beta receptor subtype and are now known to have

There was only one known estrogen receptor until 1995.

In October 1997, Karo Bio and Merck & Co., Inc. embarked on a three-year period of collaboration in drug discovery in the field of estrogen receptors. In October 2000, the collaboration was extended for two additional years. The program has successfully reached its primary drug discovery objectives, the identification of estrogen receptor subtype selective compounds with potential for multiple clinical indications.

The research collaboration phase is based on estrogen receptors as targets for the discovery of drugs that may be useful for disorders primarily in the field of women's health care. Under the terms of the agreement, which will remain in full force and effect, the research collaboration phase of this program was completed at the end of October 2002. Merck & Co., Inc. has exclusive, worldwide rights to all compounds identified during the collaboration and is responsible for their further preclinical and clinical development.

An important preclinical milestone in the collaboration with Merck & Co., Inc. was reached in July 2002 with the identification of a drug candidate, which triggered a milestone payment to Karo Bio later in the third quarter. In May 2003, Karo Bio received an additional milestone payment for the selection of a second drug candidate. In August 2003 the further development of the first drug candidate was discontinued by Merck & Co., Inc. However, Merck & Co., Inc. continues to move forward with make progress in the clinical development of the second drug candidate towards clinical development and continues to evaluate additional compounds.

Karo Bio may receive additional future milestone payments from Merck & Co., Inc. These will be dependent upon the successful development of compounds which then successfully pass clinical trials and are approved. Karo Bio may also receive royalties on sales of such compounds.

CLINICAL NEED

Estrogen, a steroid hormone, works via specific receptors to regulate a wide variety of physiological functions. In women, estrogen is mainly produced in the ovaries and is distributed by the vascular system to different target organs and tissues, where it performs its action. Estrogen production is reduced when a woman enters menopause. Menopause is one of the most significant health issues faced by women.

Treatment with natural or synthetic estrogens may help relieve some of the problems experienced by women during and after menopause, including osteoporosis, hot flushes, mood swings and urogenital atrophy.

Many women choose not to begin hormone replacement therapy (HRT) because they fear the risk of developing breast cancer and uterine cancer. Others may not want the side effects of estrogen, such as bleeding. A Women's Health Initiative study, designed to test the long-term benefit of HRT, was stopped early during 2002 due to substantial evidence of increased risk of invasive breast cancer and, overall, an increase in risk versus beneficial effects, considering all end points. For these and many other reasons, a great many women over 50 years of age have chosen not to take HRT.

Estrogen has many effects on various tissues, both desirable and undesirable. Therefore, pharmaceutical companies seek to identify drugs that either mimic or block the effects of estrogen in a selective, tissue-specific manner. Such drugs are often called Selective Estrogen Receptor Modulators, or "SERMs". Depending upon its tissue-selective profile, an ideal estrogen subtype selective drug might, depending upon its selective profile, prevent hot flushes, act as an estrogen in the brain to prevent mood changes, reduce the risk of a heart attack or breast cancer, maintain the bone density and prevent osteoporosis, and reduce the risk of uterine cancer. None of the SERMs currently marketed meet the "ideal" profile. In particular, they do not help

Strategic Collaboration - Atherosclerosis

Atherosclerosis is characterized by the thickening and hardening of the arteries, which increases the risks of severe cardiovascular disease such as, thrombosis, heart attack and stroke. There is overwhelming evidence that high plasma levels of cholesterol and cholesterol build-up in arteries contribute to the development of this disease. It has been discovered that the liver X receptor (LXR) is a key regulator of cholesterol transport and metabolism, and Karo Bio has patents for LXR and a competitive technology for drug discovery. This was the basis for the strategic collaboration with Wyeth Pharmaceuticals in 2001, aimed at developing new therapies for the treatment and prevention of atherosclerosis by targeting the liver X receptor.

CLINICAL NEED

Atherosclerosis originates from deposits of fatty substances such as cholesterol and various cellular waste products and calcium. The atherosclerotic process may begin early in life and over time lead to a build-up known as plaque, which hardens as people get older. The consequences are restricted blood flow, especially in arteries and areas where the blood vessels branch. There is also increased risk of blood clot formation. When this occurs in the heart, the result is a heart attack and, in the brain, a stroke. Blood flow in the extremities may also be restricted, which causes pain during exercise. Known risk factors are smoking, lack of exercise and high plasma cholesterol levels. Current treatments focus on lowering plasma cholesterol. It has been convincingly demonstrated that such treatments reduce the risk of developing the cardiovascular diseases associated with atherosclerosis.

Cholesterol is an essential molecule, the precursor to steroid hormones, and an important component of the cell membrane. In the bloodstream, cholesterol is present in protein particles. Depending on the composition of the particles, different forms of cholesterol can be defined. Elevated low-density-lipoprotein (LDL) cholesterol and decreased high-density-lipoprotein (HDL) cholesterol levels in plasma are major risk factors for coronary heart disease associated with the progressive formation of atherosclerotic plagues that block blood flow and damage the heart.

The liver X receptor belongs to the nuclear hormone receptor family. During the past few years, it has been discovered that this receptor plays a key role in cholesterol metabolism. There are two forms of the receptor, the LXR alpha and LXR beta subtypes, which bind cholesterol metabolites and regulate expression of a number of genes involved in cholesterol metabolism and transport. Activation of LXRs induces cholesterol efflux from cells to HDL that targets cholesterol to the liver for clearance (reverse cholesterol transport, RCT). The LXRs are, therefore, potentially important targets for the treatment and prevention of atherosclerosis.

An early step in the atherosclerotic process is the formation of foam cells, which are cholesterol-enriched macrophages, a specific form of white blood cells. Disruption of RCT, as observed in patients with Tangier's disease (caused by mutation in the gene coding for the cholesterol transport protein ABCA1), leads to accumulation of cholesterol in tissues and an increase in the number of foam cells. Since LXR is an important regulator of ABCA1, its activation should stimulate production of the transport protein, which would remove the dangerous cholesterol

build-up in arteries, thereby preventing atherosclerosis. The proof of this principle is that patients with Tangier's disease lack a functioning transport protein and, therefore, are at increased risk of developing atherosclerosis.

THE WYETH **PHARMACEUTICALS COLLABORATION**

Karo Bio has strong technology and patent protection related to the liver X receptor. On that basis, Karo Bio entered into

The Wyeth Pharmaceuticals collaboration

- **Initiated September 2001**
- Atherosclerosis and other LXR related diseases
- Good progress during 2003
- Lead compounds in animal testing

strategic collaboration with Wyeth Pharmaceuticals in the fall of 2001. The parties are collaborating in the drug discovery phase. Wyeth is responsible for preclinical and clinical development as well as possible future sales and marketing. The initial focus is on atherosclerosis as the first clinical indication. There is reason to believe that the liver X receptor is an important target for other metabolic disorders, and these are also covered by the collaboration agreement. The project has made important progress during 2003 with the development of lead compounds that have entered animal studies.

Strategic Collaboration - Obesity

The Bristol-Myers Squibb collaboration

- Initiated October 1997
- Obesity and metabolic diseases
- First clinical compound discontinued
 March 2002
- Convincing data published in P.N.A.S., August 2003
- New compounds under evaluation for candidate drug selection

Obesity is increasing at an alarming rate in spite of attempts to educate people about the importance of exercise and the need to reduce calorie intake. Thus, there is a need for pharmacological intervention. Thyroid hormone is an important regulator of metabolism in the body. and high thyroid hormone levels lead to weight loss. Natural thyroid hormone cannot be used to treat obesity because it causes cardiac side effects. Karo Bio is collaborating with Bristol-Myers Squibb on the development of novel thyroid hormone receptor modulators for the treatment of obesity.

CLINICAL NEED

Obesity is one of the most serious health problems in the western world, often leading to life-threatening chronic diseases such as degenerative arthritis, hyperlipidemia, hypertension, coronary artery disease and type 2 diabetes. Obesity is associated with increased risk of morbidity and mortality and is rapidly increasing in both industrial and developing countries. In the US alone, health care costs associated with obesity exceed USD 50 billion annually. Decades of attempts to educate people about the importance of healthy diet and the need for exercise have failed so far, and there is a need for pharmacological intervention. Current drugs that either suppress appetite or reduce fat absorption are associated with side effects and are not effective enough. There is thus a need for the development of new therapies that promote a safe increase in energy expenditure.

Native thyroid hormone increases the body's metabolic rate, which is believed to reduce obesity. However, native thyroid hormone also has effects on the heart that preclude its use for the treatment of obesity. The development of new selective thyroid hormone receptor modulators without cardiac side effects is thus a promising avenue leading towards therapies for an as-yet-unresolved medical problem.

THE BRISTOL-MYERS SQUIBB COLLABORATION

The concept of treating metabolic disturbances by means of selective thyroid hormone receptor sub-type modulators is very novel and was developed by Karo Bio in close collaboration with its scientific network. The objective is to increase metabolism without increasing cardiac side effects.

Karo Bio, in collaboration with Bristol-Myers Squibb, its partner in this area, has now developed the concept of tissue-selective thyroid hormone receptor modulators.

The collaboration, which began in October 1997, has been very productive and the parties have jointly demonstrated proof of concept in animal models. The collaboration with Bristol-Myers Squibb was extended for an additional year in the fall of 2000 and for yet another year in 2001, when it was also expanded to include Molecular Braille® technology. This technology is ideal for selecting and characterizing tissue-selective drugs, and progress is being made in the project.

Bristol-Myers Squibb paid an upfront payment when the collaboration began and funded Karo Bio's research.

Bristol-Myers Squibb will retain world-marketing rights on products developed through the collaboration, and Karo Bio will receive royalties on future sales if compounds are successful and reach the market. Additional milestone payments will be paid to Karo Bio as the compounds pass various stages of development. In the fall of 2001, the leading compound entered phase I clinical trials for treatment of obesity, but this compound was discontinued in the spring of 2002 for safety reasons. No adverse effects have been observed in animals or humans, but the properties of the compound could have led to safety issues at later stages of development.

The joint drug discovery phase was completed in spring 2003 and Bristol-Myers Squibb is progressing with the selection and characterization of new candidate drugs intended for clinical trials. During the year, Karo Bio and Bristol-Myers Squibb have also published an important scientific paper together with scientific collaborators. The paper was published in the August issue of *The Proceedings of the National Academy of Sciences USA* (P.N.A.S.) and presents strong data in support of the innovative concept of treating obesity with novel and selective thyroid hormone receptor modulators. Apart from highlighting significant weight-lowering effects, the paper showed that such compounds also have the capacity to significantly lower cholesterol and other lipid components that are risk factors in the development of cardiovascular disease.

Internal Projects

Karo Bio has built up a strong pipeline of internal projects. The highest priority is the type 2 diabetes project that Karo Bio is continuing to develop after Karo Bio and Abbott Laboratories decided to separate. Other high priority projects are the STAD project for the treatment of dyslipidemia, the estrogen receptor project for various diseases and the androgen receptor project for the treatment of prostate cancer.

TYPE 2 DIABETES

Type 2 diabetes is increasing through out the world at epidemic proportions. The increasing incidence of the disease has been linked to lifestyle, diet (obesity) and an aging population, but obesity is probably the most common cause. Abbott Laboratories and Karo Bio have been collaborating on the development of a novel therapy for the treatment of type 2 diabetes since January 2000, with the glucocorticoid receptor as a drug target. The aim of the collaboration was to develop liver-selective antagonists that will normalize the elevated fasting blood glucose levels by suppressing the output of glucose from the liver in type 2 diabetes.

Therapy for type 2 diabetes remains inadequate despite a number of current treatment modalities. Even though increased glucose production plays a pivotal role in the pathophysiology of fasting and postprandial hyperglycemia, there are no medical therapies that have directly targeted this process in the treatment of type 2 diabetes.

Glucocorticoids, of which cortisol is pre-eminent in humans, are secreted by the adrenal glands in response to a great variety of stress conditions. Their effects are mediated

LIVER PLAYS A MAJOR ROLE IN TYPE 2 DIABETES BY CONTROLLING GLUCOSE PRODUCTION In fasting state all glucose is produced in liver In postprandial state 50 % of glucose is produced in liver

by the glucocorticoid receptor. One response of glucocorticoids is to enhance glucose production. Thus, there is increased glucose production in glucocorticoid excess states that can precipitate latent diabetes or aggravate existing diabetes. Conversely, in glucocorticoid-deficient states,

there is decreased glucose production, and a tendency towards hypoglycemia. Thus, a liver-selective glucocorticoid receptor antagonist could decrease liver glucose production in patients with diabetes and improve diabetic control overall. Previous efforts to block glucocorticoid action in diabetes have been hampered because any compounds used might generally block glucocorticoid action in all tissues and would lead to potential problems of glucocorticoid insufficiency, such as hypotension, shock, and ultimately death, if the organism were exposed to sufficiently strong stress conditions.

Karo Bio and its scientific network have developed a new concept for the treatment of type 2 diabetes. The approach involves developing a liverselective glucocorticoid antagonist. Liver-selective antagonists for the glucocorticoid receptor may be a significantly improved therapy in the treatment of type 2 diabetes.

Highlights of the year

- Karo Bio makes progress in the development of the KB3305 compound for type 2 diabetes
- Lead series of compounds entered animal studies in the STAD project
- Lead series of compounds entered animal studies in the AR prostate cancer project
- The receptor structure for MR was solved
- Proof of principle for the obesity project with BMS was published

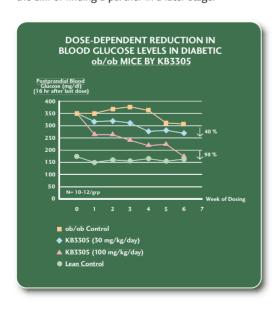
Karo Bio focuses on the liver as the target organ for treatment of type 2 diabetes. The target receptor in the liver is the glucocorticoid receptor (GR) that regulates key enzymes responsible for glucose production. For this reason the objective is to develop liver selective GR antagonists. KB3305 has these properties.



THE KB3305 COMPOUND

In 2000, Karo Bio and Abbott Laboratories started a joint project for the discovery and development of new treatments for type 2 diabetes. The joint drug discovery phase was concluded by the end of 2002 after the successful discovery of a new and promising concept for type 2 diabetes based upon the lead compound named A-348441, now named KB3305. This compound targets the glucocorticoid receptor within the liver, which is known to be an important target for regulating glucose output.

In studies involving diabetic and dyslipidemic animals, KB3305 has been shown to normalize blood glucose levels and to lower levels of certain elevated lipids. In addition, KB3305 significantly reduces hepatic glucose output with secondary improvements in insulin sensitivity across multiple animal species. Glucocorticoid receptors are present in a variety of tissues, and the KB3305 compound also possesses binding activity to the progesterone receptor. However, KB3305 is pharmacologically selective for the liver, thereby minimizing potential side effects in other parts of the body. One side effect commonly observed with the insulin sensitizers currently being marketed is weight gain; however, no weight gain was observed in animals treated with the KB3305 compound. Karo Bio believes that the KB3305 compound has a great potential due to its potency and unique profile. Karo Bio is developing the compound with the aim of finding a partner in a later stage.



The figure demonstrates that KB3305 can normalize the glucose level in diabetic mice.

AR - PROSTATE CANCER

Prostate cancer now surpasses lung cancer as the leading form of cancer in American men. About 30 percent of men over the age of 50 are affected by prostate. Tumor progression is caused by androgens and it is, therefore, essential to interfere with receptor activation by androgens.

There are presently several treatment options for treating prostate cancer, and anti-androgens are an important part of the arsenal. There is, however, room for improvement in terms of the existing compounds. Even the best antiandrogens available have low receptor affinity. Ultimately, the goal would be to affect only the prostate and spare tissues such as muscle, bone and CNS. Anti-androgens that are currently available suffer from a lack of tissue selectivity and allow progression of prostate cancer to an androgen-independent state. Consequently, there is a need to develop improved anti-androgens with greater tissue selectivity to reduce side effects and greater effectiveness in controlling the rate of androgen-independent progression. The aim is to develop a selective androgen receptor modulator (SARM) that is capable of inhibiting androgen receptors of a specific tissue(s) while allowing the normal interaction of androgens with androgen receptors at other sites. For the treatment of prostate cancer, an orally active compound with tissue selective effects on the prostate would be the ultimate goal. During 2003, Karo Bio made significant progress in the project with the discovery of novel and potent anti-androgens. Selected compounds are characterized in animal models with the aim of selecting a candidate drug for clinical trials.

GR - INFLAMMATORY DISORDERS

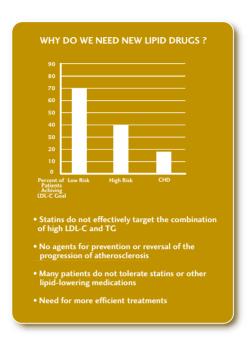
Glucocorticoids are the most powerful anti-inflammatory agents known, but have a number of side effects that limit their use. The most important side effects are osteoporosis, diabetes, skin atrophy (thinning of the skin), muscle wasting and infections. With new insight into the exact mechanism of glucocorticoid receptor action, it now seems likely that it is possible to develop potent anti-inflammatory glucocorticoids devoid of the most serious side effects. The opportunities lie in a detailed understanding of receptor structure and function and in access to technologies that allow the design and synthesis of compounds that activate the receptor's anti-inflammatory properties without activating the receptor's properties that cause serious side effects. Karo Bio's technology base, including receptor-ligand three-dimensional determination and Molecular Braille® technology, is well suited to addressing these issues.

ESTROGEN RECEPTORS

The estrogen receptor is an important drug target and antiestrogens are important drugs for the treatment of breast cancer. Estrogen is also prescribed for HRT and for prevention of osteoporosis. However, these drugs were developed at an early stage and are associated with a number of side effects. For this reason, there is a demand for new and safe therapies. The estrogen receptor has two subtypes, the estrogen receptor alpha and the new estrogen receptor beta. The discovery of the beta-receptor by Karo Bio and scientific collaborators has provided opportunities for the development of compounds that are both tissue- and receptor-specific. Future therapies will, most likely, be based on such molecules that have the potential to improve existing therapies and reduce side effects. In addition, the understanding of the biology of the two estrogen receptors has increased dramatically during the past few years, and the number of potential diseases that could be treated with new selective molecules has increased substantially. Karo Bio is giving high priority to its project in the field and has built up a leading drug discovery technology around the estrogen receptors. Karo Bio has prioritized clinical areas and is progressing with the establishment of animal models and the build-up of new proprietary chemical libraries.

TR - DYSLIPIDEMIA

Karo Bio has a vast experience in the thyroid hormone receptor field, and there are a number of opportunities for treating important diseases with thyroid hormone analogs. Karo Bio is now focusing on the development of selective thyroid hormone modulators of dyslipidemia (STAD). STADs have the capacity to lower cholesterol and triglycerides to a level comparable with the best statins, which are the current gold standard in the treatment of dyslipidemia. In addition, STADs also lower important markers for the development of cardiovascular disease, such as lipoprotein (a) and homocystein, which are not affected by statins. STADs, therefore, have the potential to become important agents in new treatments of dyslipidemia, either as a monotherapy or in combination with statins. The medical need is there since high-risk patients and patients with established cardiovascular disease are not adequately treated with statins alone. Karo Bio has made very good progress in the project during the year, with the development of new potent compounds that have shown promising results in animal models. Lead compound optimization and animal studies are continuing, the aim being to select candidate drugs for clinical trials.



Exploratory Research

Karo Bio conducts exploratory research and continually evaluates new projects, including new therapies, in order to successfully maintain a strong flow of new projects. Since nuclear receptors are similar to one another in structure and function, Karo Bio is able to start new projects quickly.

MR - HYPERTENSION - HEART FAILURE

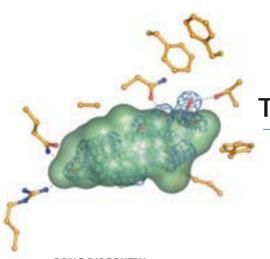
New activities involving previously known nuclear receptors are exemplified by the Company's exploratory activities regarding the mineralocorticoid receptor (MR). The deleterious effects of aldosterone, the hormones that activates MR, are becoming increasingly recognized. Excess aldosterone causes hypertension and has negative effects on the heart. The only two anti-mineralocorticoids on the market are of low affinity and causes pronounced side effects by interacting with other nuclear hormone receptors. A mineralocorticoid receptor antagonist of high receptor affinity and specificity is therefore expected to have great clinical utility. During 2003, Karo Bio solved the three-dimensional structure of MR and is, therefore, in possession of an important tool useful for the design of new and improved drugs.

ORPHAN RECEPTORS

Many of the nuclear receptors are characterized as orphan receptors because the natural hormones and vitamins for these receptors are still unknown. It is also believed that there are more as-yet-undiscovered receptors. Those discovered so far need further characterization regarding their functions. In this area, Karo Bio is collaborating with academic teams, a strategy that has had a major impact on Karo Bio's project portfolio. ER beta was discovered in this program, which played a major role in the establishment of the collaboration with Merck & Co., Inc. Another breakthrough was the discovery and characterization of the liver X receptor, which is the cornerstone of the collaboration with Wyeth Pharmaceuticals concerning atherosclerosis. Karo Bio remains active in this area in collaboration with the academic world, and future activities will include further characterization of known orphans, as well as a search for new receptors. Karo Bio is also exploring the opportunities associated with receptor coactivators.

SKIN DISORDERS

Skin atrophy is a condition in which the skin becomes thin and loses some of its functions. The negative consequences are easy bruising and impaired wound healing. Skin atrophy results from topical treatment with glucocorticoids, but can also be caused by aging or sun exposure. Karo Bio has clinical data that indicate that the compound KB002611, which stimulates TR, could be used for the prevention of steroid-induced skin atrophy. Karo Bio has a strong intellectual property portfolio due to a series of patents, related to formulations of thyroid hormone analogues, such as KB002611, in dermatological applications. Karo Bio is seeking a partner for the further clinical development of the project. Karo Bio compounds for additional dermatological applications.



The Drug Discovery Process

DRUG DISCOVERY

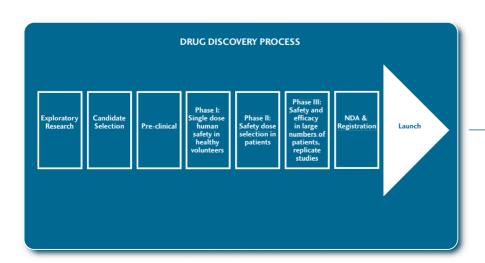
The drug discovery process is initiated when there is strong evidence that a target protein can be linked to a certain disease. For Karo Bio, this involves initiating a search for chemical compounds with a capacity to bind to a specific nuclear receptor. These compounds will subsequently be chemically modified for the purpose of obtaining optimal binding affinity, receptor selectivity, tissue selectivity and efficacy in various cell or animal models. Once a satisfactory profile is obtained, the compounds are selected for preclinical development, a process that involves toxicity studies in animal models as well as studies of uptake, distribution, metabolism and secretion. If a compound shows promising activities in all these tests, it will be selected for clinical development. An investigational new drug application (IND) is sent to the regulatory authorities and, after approval, clinical studies can be initiated.

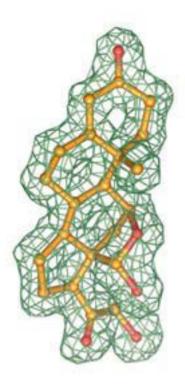
CLINICAL DEVELOPMENT

Clinical development begins with phase I studies, i.e. studies of the drug's effect on humans. As a rule, these studies are carried out on healthy individuals and involve taking score on a number of general safety parameters and issues related to the compound's mechanism of action. The compound is also tested in low and high concentrations in order to confirm therapeutic windows.

Phase I clinical studies are followed by phase II studies that focus on efficacy. If a drug shows the desired activity, patient trials are expanded to include phase III studies. Phase III studies are usually conducted at a number of different clinical centers to eliminate methodological errors that may be related to certain centers. Phase III studies are also important from a safety aspect since they are carried out using a larger patient population, which increases the possibility of detecting rare individual differences related to efficacy or safety.

Clinical development may take three to ten years, depending on the indication, the study results, and the pharmaceutical company's planning and experience. Once all clinical documentation has been compiled and evaluated, a new drug application (NDA) is submitted to the regulatory authorities.





Karo Bio Drug Discovery Technology

The Company has established an integrated technology platform based on its strengths in structural biology, computer-aided drug design, medicinal chemistry, Molecular Braille® technology and screening technologies. Together, these technologies allow Karo Bio to rapidly identify receptor-specific chemical compounds, to rationally optimize their potency and specificity and to systematically select the most promising compounds for clinical development. In addition, Karo Bio's close collaboration with the academic world and its internal knowledge of nuclear receptor biology and related diseases put the Company in a strong position to improve on existing therapies and develop new and innovative therapies.

NUCLEAR RECEPTORS AS DRUG TARGETS

Nuclear receptors belong to a family of functionally and structurally-related proteins. These receptors share one major biological function; they all regulate gene expression. This means that genes are turned on or turned off and nuclear receptors can, therefore, be described as gene switches. Ultimately, gene regulation affects the cellular production of certain proteins that are important to cell functions in health and disease conditions. For the most part, this occurs through direct binding of the receptor to DNA sequences adjacent to regulated genes, which results in an increase or decrease in expression of those genes. Many classical hormones and vitamins function through interaction with nuclear receptors. For example, the female and male sex hormones (estrogen and testosterone),

Medicinal Chemistry
Single compounds
Combichem
Computer aided design

Structural
Biology
Receptor - ligand structures
Molecular Braille®
information

Information

Information

Drug Selection
Systems
Tissue Profiling®
Molecular Braille®
technology

vitamin A, vitamin D and thyroid hormone function via nuclear receptors. Nuclear receptors serve as the key regulators of genes involved in many critical physiological functions and, therefore, are often involved in or affect the status of many diseases.

DRUG DISCOVERY TECHNOLOGY

Karo Bio drug discovery technology is built upon four cornerstones:

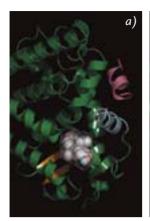
- Structural Biology
- Medicinal Chemistry
- Compound Screening Technology
- Compound Characterization and Selection Systemss

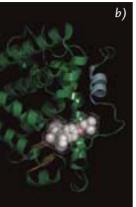
STRUCTURAL BIOLOGY

Nuclear receptors are proteins composed of several hundred amino acids and thousands of atoms. Since the receptors bind hormones and pharmaceutical substances in a selective and specific manner, insight into their three-dimensional structure is significant to the capacity to optimize lead compounds and design new drugs.

Karo Bio with its collaborators were the first to determine the three-dimensional structures of key targets such as the ligand-binding domain of estrogen receptors alpha and beta, thyroid hormone receptors alpha and beta and the glucocorticoid receptor. Karo Bio was also the first to solve the structures of the LXR receptors and, during 2003, the structure of the mineralocorticoid receptor

Karo Bio has developed an integrated technology base where the main components include screening, receptor structure information, chemistry and drug selection systems such as Molecular Braille® technology.





The figures illustrate the structure of the estrogen receptor in complex with an agonist (a) and an antagonist (b).

In (a) the position of helix 12, the blue structure, permits the binding of a coactivator cloured in red. The coactivator permits agonist action.

The binding of an antagonist in (b) distorts helix 12 which prevents coactivator binding ant this is the molecular basis for antagonist function

(MR) was solved. Access to receptor structures and to receptor subtypes enables the design of receptor and receptor subtype selective compounds necessary for reducing side effects and successfully developing innovative therapies. The hormones that fit into and bind to the receptors can be compared to keys that fit a keyhole in the receptor lock. The receptors, however, are somewhat flexible and can adapt to and bind different keys. Within certain limits, the lock can conform to the structure of certain keys. This tells us that it is not sufficient to determine only one three-dimensional structure with one ligand to understand how the receptors function. Numerous threedimensional structures have to be determined for each nuclear receptor using different compounds. In this way, determining receptor structures has become a crucial part of the iterative process that constitutes modern drug discovery at Karo Bio. The various receptor conformations obtained by different ligands may direct different biological activities in different tissues.

Computer-Aided Drug Design

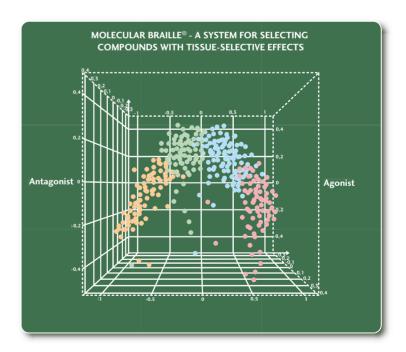
Receptor structures can be visualized in different ways using computer graphic techniques. Karo Bio's design chemists determine how the overall structure changes when they are in combination with different compounds. In addition, they can focus on details of the drug-binding pocket to evaluate how to improve compound binding. Using the structural information for the receptor, the organic chemists, working with the design chemists, design and synthesize either completely novel compounds *de novo* or make selective improvements to existing compounds. In the latter case,

compounds identified in the high throughput screening of chemical compound libraries may be optimized to produce better binding, selectivity and specificity. Using computer technology, the chemical structure of the lead compound can be docked into the ligand-binding site. This makes it possible to visualize and understand how improvements may be made in the lead compound. If we were to use the lock and key analogy, the technology would allow a lock-smith to make a new key much faster, and with better results.

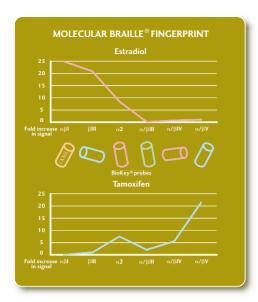
During 2003, Karo Bio has been very successful with in silico screening (also known as virtual screening), which means that the receptor structure information is used to search compound data bases for lead compounds that fit the criteria for receptor binding. This approach has been very successful in the prostate cancer project, since potent lead compounds have been identified.

MEDICINAL CHEMISTRY

Karo Bio has established an experienced group of medicinal chemists. In the past, drug discovery was based on the synthesis of single compounds optimized by trial and error. However, Karo Bio applies a number of new technologies that greatly accelerate the drug discovery process. For



The figure illustrates that Molecular Braille® technology can be used to cluster compounds in a wide range from antagonists to agonists. The system also facilitates identification of compounds with tissue-selective effects since such effects are mediated via receptor surface structural changes detected with Molecular Braille®.



Chemical compounds that bind to nuclear receptors create unique receptor surfaces. Karo Bio uses proprietary BioKey® probes that bind to the receptor surfaces in different ways depending on the surface conformation that are induced by different compounds. Unique binding curves are created for each chemical compound as illustrated with estradiol and tamoxifen bound to the estrogen receptor.

instance, combinatorial chemistry methods are employed that explore a wide chemical diversity by synthesizing a large number of compounds simultaneously. In theory, it should be possible to design compounds with the desired properties based on receptor structure alone. Since the receptor structure is plastic, certain modifications to the compounds may lead to unexpected properties. Therefore, to maximize the chances of success, rational structure-based design is combined with thorough exploration of changes of the compounds in critical areas suggested by the receptor structure. The properties of the new compounds are verified using a variety of cell-based assays and animal models.

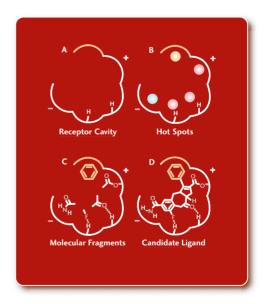
COMPOUND SCREENING TECHNOLOGY

In a drug discovery program, screening technologies play a role at several different steps in the process. To find new drug substances directed towards a given target, it is very useful to test libraries of compounds to identify a starting point for drug development. Karo Bio has assembled a large collection of diverse chemical compounds and has put in place an automated, high-throughput screening system to screen compounds rapidly, accurately and cheaply with regard to their capacity to bind to nuclear receptors. Compounds identified in a high-throughput screen must be optimized by medicinal chemists to generate a potent and selective compound for clinical development. Thousands of compounds are synthesized as part of the optimization process. In order to select the most promising compounds for preclinical studies and potential clinical development, these compounds are screened using receptor selectivity, Tissue ProfilingTM and Molecular Braille® assays. For all of these screening technologies, Karo Bio has established an industrialized, parallel approach to rapidly characterize and prioritize compounds for further development.

COMPOUND CHARACTERIZATION AND SELECTION SYSTEMS

Nuclear receptors regulate gene expression. This regulation is based on the conformation-dependent interaction of the nuclear receptor with other regulatory proteins in a cell. The conformation a nuclear receptor adopts is dependent on the ligand (hormone or pharmaceutical) that is bound to the receptor. The response, therefore, that a compound has in a biological system can be predicted based on the conformation of the nuclear receptor that is induced by the compound.

Karo Bio has developed a proprietary method, called Molecular Braille® technology, that can rapidly predict the conformation of a nuclear receptor when a ligand is bound. Molecular Braille® technology is based on the use of receptor-specific BioKey® peptide probes that recognize and bind to unique receptor conformations. Using a panel of these BioKey® peptide probes, a fingerprint or profile of the receptor's conformation induced by a ligand can be determined. The Molecular Braille® technology allows Karo Bio to rapidly characterize a large number of compounds and focus on the compounds that are the most promising clinical candidates.



De Novo Design

When the structure of the hormone-binding pocket is known, design of new chemical compounds can be made.

- A) The receptor cavity is identified regarding its spatial and chemical properties
- B) "Hot spots" or interesting areas in the cavity are identified.
- C) Molecular fragments are linked to the "Hot spots".
- D) A new chemical compound is made step-by-step.

Intellectual Property

PATENTS

Karo Bio's intellectual property is primarily protected by means of patents. Patents, which are monopoly rights awarded by the State in return for the disclosure of an invention in the form of a written patent specification, serve to encourage innovation. Gaining patent protection is a key factor in the drug discovery field where the investment in bringing pharmaceutical products to market is significant.

Patent Strategy

Karo Bio makes every effort to obtain strong patent protection for newly discovered pharmaceutical compounds and medical uses of existing compounds, processes and methods, and enabling technology such as assay systems, and isolated genes and proteins. The countries or regions where Karo Bio is pursuing patent protection represent regions with major market potential, or areas where competitors are performing research. Furthermore, Karo Bio monitors third-party activities in order to monitor potential infringement of Company patents.

Karo Bio's intellectual property is managed by in-house patent managers together with leading patent attorneys and legal counselors in Europe and the US.

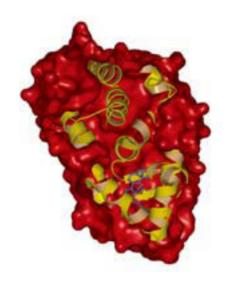
In order to support the strategy and activities of Karo Bio, the patent portfolio is constantly being reviewed. New inventions, such as new compounds or new uses of compounds, are thoroughly investigated with regards to patentability and to the potential value of a patent. This enables Karo Bio to obtain a proper scope of protection and freedomto-operate, while reducing fees and other expenses.

Chemical Compounds and medical use of compounds

Karo Bio files patent applications covering all new compounds and series of compounds being developed. Patents derived from these applications are the basis of protection for new pharmaceutical products. Patent applications covering the medical use of compounds are also filed. These two types of patent applications are the main focus of Karo Bio's patent strategy, and are certainly consistent with Karo Bio's overall business strategy.

Enabling Technology

Patents covering new drug discovery technologies are important for the protection of the Company's know-how. Karo Bio's drug discovery technology patents are valuable business tools for Karo Bio, as some of the technologies are offered or licensed as services during collaboration projects. Consequently, Karo Bio applies for patents covering most aspects of the drug discovery technology it uses.



Examples of such patents include patents covering liverspecific bile acid derivatives, and the patents covering the use of TR antagonists for treating psoriasis.

Karo Bio also has certain rights to a number of patents covering receptors, such as the estrogen receptor, thyroid receptor, liver X receptor, and the androgen receptor. In addition, Karo Bio has been granted a patent for the BioKey® Technology, enabling the discovery of small molecule compounds in high throughput format even in the absence of detailed functional knowledge of the target protein.

Applications for the Molecular Braille® Technology, enabling the prediction of the capacity of compounds to modulate the biological activity of receptors, are pending.

TRADEMARKS

Trademark applications have been filed for several of Karo Bio's products and logotypes. The following trademarks have been issued; Karo Bio (Community Trade Mark), Karo Bio (logotype), AlphaKey technology, BioKey technology, Cellular Braille technology and Molecular Braille technology.

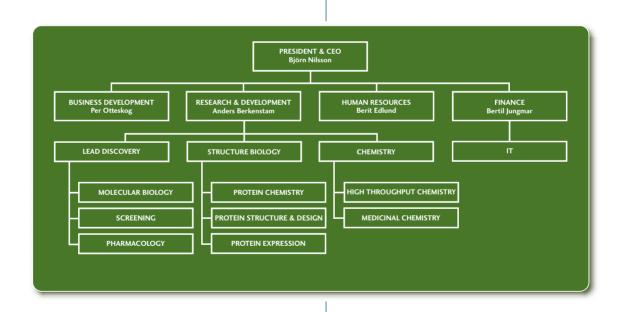
Human Resources and Organization

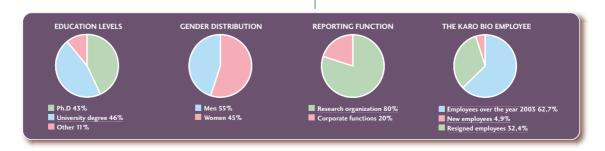
Karo Bio has developed an organization that is skilful and internationally competitive. The level of education is high and the R&D competence and experience considerable.

During the year, Karo Bio has continued to develop the organization. The chemistry department has been strengthened through new recruitments, including the recruitment of a new department head. Karo Bio has also built up internal pharmacology resources and is moving forward with the preclinical development of internal projects. During the year, Karo Bio has downsized the Company and reduced staff numbers to 99 employees. These reductions have primarily been in the field of biology and have included the closure of the Karo Bio site in North Carolina, USA. The technologies and methods used in North Carolina have been transferred to the Swedish organization.

Karo Bio continues to develop its organization and its people. During 2003, the focus has been on further

enhancement of the high level of professionalism within the Company. Among other efforts, leadership and management training was given, as well as training in specific scientific areas. Individual development programs are important for the Company and its staff. Karo Bio has a high level of ambition in this area, something that makes the Company attractive to employees. Karo Bio is lean and flexible in relation to big pharmaceutical companies, working closely with academic groups and pharmaceutical companies in an innovative and dynamic way. This environment adds to the appeal of Karo Bio as a working place for both scientists as well as non-scientific staff.







Quality Control and Environment

KARO BIO - CORPORATE CITIZEN

Karo Bio strives for quality in all it does. This involves not only maintaining the highest levels of quality in its operations - research and results - but also in other areas affected by the Company's work.

Karo Bio's operations have a social impact beyond the development of new expertise and medicines. Karo Bio interacts and works with the community as an employer, as a handler of sensitive substances and products and as a partner of the academic world.

Karo Bio's goal is to improve people's wellbeing wherever possible by developing treatments for widespread diseases. In light of this noble aspiration, Karo Bio must obviously ensure that daily operations have the least negative and the most positive impact possible on the world around us.

Environmental Impact

All business involves using natural resources to some extent. Obviously, this also applies to a research company without in-house production. Karo Bio works daily with chemical substances and micro organisms. Safety, quality and established procedures are required to protect the inhouse work environment and minimize the impact on the natural environment.

A number of safety and environmental functions have been established within the organization to ensure that Karo Bio complies with rules and regulations, as well as the Company's own environmental objectives. Hazardous waste and chemical products are disposed of in cooperation with professional contractors to ensure optimum waste management.

Karo Bio's environmental program is being continuously improved, but even greater effort is needed to achieve and secure Karo Bio's overall objectives in this area. The first step involves implementing a detailed overview of the requirements, and developing tools for evaluating and assuring the quality of future environmental measures.

Research - A Major Responsibility

Karo Bio works at the cutting edge of biotechnology research. New knowledge about human constitution and functions has come to light at a speed that was previously unimaginable. The mapping of the human genome has provided a complete draft picture of the human genetic make-up.

Advanced research brings with it responsibility. A great deal of research is conducted in collaboration with academic institutions, such as Karolinska Institutet in Sweden and the University of North Carolina in the US. This provides resources and an increased body of knowledge for the academic research. Once Karo Bio has secured a patent, our policy is to publish research results wherever possible

and relevant in order to communicate important findings to the larger scientific community.

Genetics, Stem Cells and Animal Testing

Scientific issues are a frequent subject of social debate from the perspective of ethics, for example in genetic engineering and animal testing.

Karo Bio's research concentrates on nuclear receptors as target proteins for the development of pharmaceuticals. Knowledge of the human genome and human cell development is a prerequisite for understanding and determining whether potential pharmaceutical substances can affect the course of various diseases.

Karo Bio frequently uses genetically modified micro organisms to conduct its drug discovery research. However, the processes and substances that Karo Bio uses in its research have nothing to do with human genetic manipulation or the cloning of humans.

Drug discovery and development dictate the use of animals in testing the safety and efficacy of the compounds. Karo Bio works actively to reduce the number of animal trials. By developing technologies in which many tests are conducted on cultivated cells instead, such as Tissue ProfilingTM technology, the use of research animals is significantly reduced in the research phase. When animal testing is necessary, professional collaborative partners carry it out.

The Karo Bio Share and Ownership Structure



Karo Bio has been traded on the O-List of the Stockholm Stock Exchange since April 3, 1998 with the ticker KARO.

SHARE CAPITAL AND STRUCTURE

The number of shares increased during the year by 4 821 850 from the new share issue carried out and by 3 547 from exercise of warrants. Karo Bio's share capital of SEK 84 390 270 as of year-end was divided among 16 878 054 shares at par value of SEK 5. There were also outstanding warrants representing 623 430 shares, of which 15 230 shares relate to the acquisition of Karo Bio USA, Inc., in 2000, 367 200 shares relate to the Stock Option Program 2001 and 241 000 shares relate to the Stock Option Program 2003 as decided by the Shareholders' Meeting in April 2003.

SHARE PRICE TREND AND TRADING VOLUME

Karo Bio's price per share declined 2003 from SEK 85.00 to SEK 29.90, a decrease of 65 percent. During the same period, the business magazine Affärsvärlden's General Index (AFGX) increased by 30 percent and its Biotech Index increased by 97 percent. As of year-end 2003, Karo Bio's market capitalization was MSEK 504.7 compared to MSEK 1 024 at the beginning of the year. Based on a last price paid of SEK 40.80 on January 31, the market capitalization was MSEK 688.8.

The Karo Bio share was introduced on April 3, 1998 at SEK 92 per share, representing a market capitalization of MSEK 725.6. At the end of the first day of trading, the price stood at SEK 134.

In 2003, 7 788 306 (4 621 239) Karo Bio shares were traded on the Stockholm Stock Exchange, corresponding to a turnover rate of 45 (36) percent, compared with the 125 (122) percent average for shares traded on the Stockholm Stock Exchange.

CAPITAL MARKET ACTIVITY

Karo Bio takes an active part in the capital market by organizing capital market events and participating in other activities organized by banks and industry organizations. During 2003, Karo Bio held one capital market day and participated in more than 20 activities organized by other parties.

DIVIDEND POLICY

Karo Bio has not distributed dividends since the Company was founded in 1987. The board of directors does not intend to propose the distribution of dividends until the Company receives significant royalty revenues or generates significant profits and cash flows by other means.

OWNERSHIP STRUCTURE AS OF DECEMBER 31, 2003

Shareholding, no. of shares	No. of shareholders	Percentage of shareholders	No. of shares	Percentage of share capital
1 - 500	3 414	73.1	487 200	2.9
501 - 1 000	565	12.1	471 608	2.8
1 001 - 10 000	577	12.3	1 729 448	10.2
10 001 - 50 000	70	1.5	1 479 557	8.8
50 001 - 100 000	19	0.4	1 334 019	7.9
100 001 -	28	0.6	11 376 222	67.4
Total	4 673	100.0	16 878 054	100.0

PRINCIPAL SHAREHOLDERS AS OF DECEMBER 31, 2003 INVESTMENT BANKS COVERING THE KARO BIO SHARE

		Share of capital and		
Owner	No. of shares		Investment bank	Analyst/City
Nordea Bank	2 099 675	12.4	ABG Sundal Collier	Alexander Lindström, Stockholm
Alecta Pension Insurance	1 670 573	9.9	Alfred Berg / ABN AMRO	Mattias Häggblom, Stockholm
Claesson, Johan	1 078 151	6.4	D. Carnegie	Angelica Fatourous, Stockholm
Fourth Swedish National Pension Fund	829 120	4.9	Handelsbanken	Susanna Urdmark, Stockholm
HealthCap	721 814	4.3	Lehman Brothers International	Sam Williams, London
Fowlkes, Dana	540 439	3.2	Nordea Securities	Stefan Wikholm, Stockholm
Skandia	510 459	3.0	Kaupthing Bank	Conny Granelli, Stockholm
Carlson Funds	506 170	3.0	Swedbank Markets	Maarten de Chateau, Stockholm
Second Swedish National Pension Fund	464 632	2.8		
Sixth Swedish National Pension Fund	439 325	2.6		
Handelsbanken	401 009	2.4		
Baxter Family	262 690	1.6		
Karo Bio employees	194 676	1.2		
Other shareholders	7 159 321	42.3		
Total	16 878 054	100.0		

Source: Swedish Securities Register Centre (VPC AB) and information from shareholders. Share holdings include family and shares held through companies.

CHANGES IN SHARE CAPITAL

Year	Transaction	Increase in number of shares	Total number of shares	Total share capital (SEK)	Issue Payment (SEK)1)
	As of January 1, 1998	-	3 943 586	39 435 860	-
1998	Stock split 2:1	3 943 586	7 887 172	39 435 860	-
1998	New issue - IPO	1 050 000	8 937 172	44 685 860	96 600 000
1998	New issue - IPO ²)	240 000	9 177 172	45 885 860	22 080 000
2000	New issue in kind	2 206 198	11 383 370	56 916 850	699 759 830 ³)
2000	New issue - directed placement	600 000	11 983 370	59 916 850	196 868 448
2000	Exercise of warrants	15 731	11 999 101	59 995 505	78 655
2001	Exercise of warrants	26 970	12 026 071	60 130 355	134 850
2002	Exercise of warrants	26 586	12 052 657	60 263 285	132 930
2003	New issue - rights issue	4 821 850	16 874 507	84 372 535	118 578 253
2003	Exercise of warrants	3 547	16 878 054	84 390 270	17 735

 $^{^{1)}}$ Issue amount, net of any transaction costs. $\,\,$

²⁾ Consequent to over-allotment option.

³⁾ New share issue in kind, no cash issue amount.

Five Year Summary

(MSEK, unless otherwise indicated)			GROUP		
INCOME STATEMENTS	1999	20001)	2001	2002	2003
Net sales	88.0	100.6	136.9	177.7	85.1
Administrative expenses	-18.3	-35.9	-58.7	-54.7	-45.4
Research & development expenses	-90.5	-126.9	-160.6	-175.6	-166.8
Other operating income and expenses ²⁾	-2.1	-0.3	-10.1	-6.2	2.3
Operating loss before goodwill expenses	-22.9	-62.5	-92.5	-58.8	-124.8
Goodwill amortization and writedown	-5.2	-162.9	-241.8	-241.8	-94.3
Operating loss	-28.1	-225.4	-334.3	-300.6	-219.1
Financial net	7.4	12.1	13.4	16.1	10.4
Loss after financial items	-20.7	-213.3	-320.9	-284.5	-208.7
BALANCE SHEETS					
Licenses and similar rights	0.6	0.5	23.7	13.8	4.0
Goodwill	30.9	577.9	336.1	94.4	-
Equipment	17.2	24.7	38.8	30.1	23.9
Total non-current assets	48.7	603.1	398.6	138.3	27.9
Other current assets	9.0	13.6	7.4	11.0	17.1
Cash and cash equivalents and short-term investments	18 <i>7</i> .8	329.0	282.3	201.1	184.0
Total current assets	196.8	342.6	289.7	212.1	201.1
Total assets	245.5	945.7	688.3	350.4	229.0
Chambaldani' aniita	1070	991 6	FF77	269.1	174.0
Shareholders' equity Non-current liabilities	197.9	881.6	557.7 13.9	269.1 8.1	174.9 4.7
Other current liabilities	47.6	64.1		73.2	49.4
	47.0		116.7	/3.2	47.4
Total shareholders' equity and liabilities	245.5	945.7	688.3	350.4	229.0
CASH FLOW STATEMENTS					
Cash flow from operating activities	-15.3	-20.8	-11.9	-70.9	-128.6
Cash flow from investing activities	-5.9	-27.2	-34.9	-10.3	<i>-7</i> .1
Cash flow from operations	-21.2	-48.0	-46.8	-81.2	-135.7
Cash flow from financing activities	-	189.1	0.1	0.1	118.6
Cash flow for the year	-21.2	141.1	-46.7	-81.1	-17.1
cash new ier the year				••••	.,,,
KEY RATIOS AND DATA	1070	001.6		260.1	174.0
Equity	197.9	881.6	557.7	269.1	174.9
Return on equity, %	-10.4	-24.2	-57.5	-105.7	-119.3
Return on capital employed, %	-11.0	-64.8	-113.7	-141.5	-113.4
Operating margin before goodwill expenses, %	-26.0	-62.1	-67.6	-33.1	-146.7
Operating margin, %	-31.9	-224.0	-244.2	-169.2	-257.5
Profit margin, %	-23.5	-212.0	-234.2	-160.1	-245.2
Equity ratio, %	80.6	93.2	81.0	76.8	76.3
Interest-bearing assets (net)	187.8	329.0	282.3	201.1	184.0
Investment in licenses and similar rights	-	-	10.7	5.1	3.9
Net capital investments	5.9	9.0	24.2	5.3	3.2
Average number of employees during the year	80	115	122	133	117
Of which engaged in R&D	<i>7</i> 1	96	102	107	94

 $^{^{1)}}$ Including Karo Bio USA, Inc. from May 2000.

²⁾ Gains and losses from operating transactions in foreign currencies are included in other operating income and expenses, beginning with fiscal year 2000.

			GROUP		
PER SHARE DATA (SEK) 1) 2)	1999	2000	2001	2002	2003
Loss per share:					
- average number of shares	-2.12	-18.33	-25.09	-22.19	-13.76
- shares at end of year	-2.12	-16.70	-25.07	-22.17	-12.37
Cash flow from operations per share					
- average number of shares	-2.17	-4.12	-3.65	-6.33	-8.95
- shares at end of year	-2.17	-3.76	-3.65	-6.33	-8.04
Equity per share, year-end	20.26	69.02	43.56	20.97	10.36
Share price at end of year	123.00	295.00	355.00	85.00	29.90
Share price/equity per share, year-end, %	607	427	815	405	289
NUMBER OF SHARES (millions) 1) 2)					
Average number of shares	9.8	11.6	12.8	12.8	15.2
Average number of shares including warrants	9.8	11. <i>7</i>	13.1	13.2	15.7
Number of shares, year-end	9.8	12.8	12.8	12.8	16.9
Number of shares, year-end including warrants	9.8	12.9	13.2	13.2	17.5

¹⁾ Warrants are non-dilutive as exercise of warrants would reduce losses and improve cash flow per share for each respective year.

Definitions

Equity	Shareholders' equity.
Return on equity	Loss after financial items as a percentage of average equity.
Return on capital employed	Loss after financial items as a percentage of the average total of equity and interest bearing liabilities.
Operating margin before goodwill amortization	Operating loss before goodwill amortization as a percentage of net sales.
Operating margin	Operating loss as a percentage of net sales.
Profit margin	Loss for the year as a percentage of net sales.
Equity ratio	Equity as a percentage of total assets.
Interest bearing assets (net)	Cash and cash equivalents and short-term investments.
Net capital investments	Capital investments in equipment net of disposals.
Cash flow from operations	Cash flow from operating activities and investing activities.
Loss per share	Loss in relation to the number of shares as per below.
Cash flow from operations per share	Cash flow from operating activities and investing activities per share as per below.
Equity per share	Shareholders' equity in relation to outstanding shares at year-end as per below.
Share price/equity per share	Share price as a percentage of shareholders' equity per share.
Average number of shares	Weighted-average number of shares outstanding during the year.
Average number of shares, including warrants	$Weighted-average \ number \ of \ shares, \ including \ warrants, \ outstanding \ during \ the \ year.$
Number of shares, year-end	Number of shares outstanding at the end of the year.
Number of shares, year-end, including warrants	Number of shares, including warrants, outstanding at the end of the year.

²⁾ The number of shares for the period prior to the rights issue 2003 has been adjusted for the bonus element in accordance with RR 18 Earnings per share.

Board of Directors



Per-Olof Mårtensson (1937), Höganäs, Sweden. Chairman since 2000. Elected 1994. President Karo Bio AB 1991-2000. Board memberships: BioInvent International AB (chairman), Maxim Pharmaceuticals Inc., Photocure a/s (vice chairman) and others. Shares in Karo Bio: 119 162.



Johan Claesson (1951), Kalmar, Sweden. Elected 2003. Board memberships: Claesson & Anderzén AB (chairman), Borås Wäfveri, K3 Business Technology Group plc. and others. Shares in Karo Bio: 1 078 151.



Chapel Hill, North Carolina, USA. Elected 2000.
M.D., Ph.D.
General partner, Bio Vista Capital, LLC.
Board memberships: Hemocellular Therapeutics, Inc.
Shares in Karo Bio: 540 439.



Lars Ingelmark (1949), Halmstad, Sweden. Elected 1999. Senior vice president, Head of Life Science Ventures, Sixth Swedish National Pension Fund. Board memberships: Scandinavian Life Science Venture (chairman), Svensk Våtmarksfond (chairman), Mölnlycke Health Care AB, A Carlsson Research AB, Camurus AB and others. Shares in Karo Bio: 2 000.

Deputy Directors & Executive Management

DEPUTY DIRECTORS



John D. Baxter (1940),
San Francisco, California, USA.
Elected 1999.
M.D., Ph.D.
Consultant & co-initiator of Karo
Bio AB.
Professor of Medicine, University
of California, San Francisco, USA.
Board Memberships: SciClone
Pharmaceuticals Inc., Calhoun
Vision Inc. and One Touch
Technologies.
Shares in Karo Bio: 262 690.



Jan-Åke Gustafsson (1943), Stockholm, Sweden. Elected 1987. M.D., Ph.D. Consultant & co-initiator of Karo Bio AB. Professor, chairman of the department of Medical Nutrition and director of the Center for Biotechnology at Karolinska Institutet. Shares in Karo Bio: 40 732.



Eva Koch (1966), Stockholm, Sweden. Elected 2001. Ph.D. Research scientist. Employee representative. Shares in Karo Bio: -Options in Karo Bio: 1 620.



Ann-Gerd Thorsell (1954), Stockholm, Sweden. Elected 2001. Research investigator. Employee representative. Shares in Karo Bio: 8 150. Options in Karo Bio: 1 080.



Ulla Litzén (1956), Stockholm, Sweden. Elected 2003. President, W. Capital Management. Board memberships: Investor AB, AB SKF, Atlas Copco AB, Posten AB, AB Svensk Stiftelseförvaltning and W. Capital Management AB. Shares in Karo Bio: 4 000.



Björn Nilsson (1956), Sollentuna, Sweden. Elected 2002. Ph.D., Associate adjunct professor, Royal Institute of Technology President & chief executive officer Karo Bio AB. Board memberships: BioInvent International AB. Shares in Karo Bio: 1 400. Options in Karo Bio: 21 600.



Leon E. Rosenberg (1933), Princeton, New Jersey, USA. Elected 2000. M.D. Professor, Princeton University. Board memberships: Lovelace Respiratory Research Institute, Research!America, Association for Patient Oriented Research, Pharmaceutix, Ltd., Medicines for Malaria Venture, Cellular Genomics, Inc. Shares in Karo Bio: 1 754.



Bo Carlsson (1958), Stockholm, Sweden. Elected 1997. Project manager. Employee representative. Shares in Karo Bio: 4 361. Options in Karo Bio: 2 160.



Fredrick de Maré (1962), Älvsjö, Sweden. Elected 2003. Head of intellectual property. Employee representative. Shares in Karo Bio: 5.

AUDITORS

PricewaterhouseCoopers AB. Auditor in charge: Claes Dahlén (1950), Sollentuna, Sweden. Authorized public accountant. Auditor for Karo Bio since 2001.

EXECUTIVE MANAGEMENT



Björn Nilsson (1956), Ph.D. President & chief executive officer. Employed by Karo Bio since 2001. Shares in Karo Bio: 1 400. Options in Karo Bio: 21 600.



Anders Berkenstam (1959), Ph.D. Vice president R&D. Employed by Karo Bio since 2001. Shares in Karo Bio: -Options in Karo Bio: 5 400.



Berit Edlund (1948), Director, Human Resources. Employed by Karo Bio since 2001. Shares in Karo Bio: -Options in Karo Bio: 5 400.



Bertil Jungmar (1961), Vice president, chief financial officer. Employed by Karo Bio since 2001. Shares in Karo Bio: 1 420. Options in Karo Bio: 6 480.



Per Otteskog (1947), Ph.D. Senior vice president. Business Development. Employed by Karo Bio since 1987. Shares in Karo Bio: 15 925. Options in Karo Bio: 5 400.

Shareholdings are as of December 31, 2003, and include family and shares held through companies. Number of options stated represents the corresponding number of shares.

Administration report

OPERATIONS

Karo Bio is a leading drug discovery company in the field of nuclear receptors. The Company develops receptor-selective and tissue-selective pharmaceuticals for treatment of major disorders.

Karo Bio has three strategic collaborations with international pharmaceutical companies for development of innovative therapies for the treatment of common diseases. Karo Bio also runs several internal projects in various clinical areas where the Company has competitive advantages for discovery of new pharmaceuticals that target nuclear receptors. To maintain a strong pipeline, exploratory studies are conducted in clinically important nuclear receptor areas. These studies cover new indications for previously well-characterized receptors as well as discovery and characterization of new receptors.

STRATEGIC COLLABORATION

Estrogen Receptors - Merck & Co., Inc.

In October 1997 Karo Bio and Merck & Co., Inc. initiated a three-year drug discovery collaboration in the field of estrogen receptors. The joint collaboration phase was completed in October 2002 and the program has successfully reached its primary drug discovery objectives, the identification of estrogen receptor subtype selective compounds with potential for multiple clinical indications.

Under the terms of the agreement, which will remain in full force and effect, Merck & Co., Inc. has exclusive, worldwide rights for all compounds identified during the collaboration and is responsible for its further preclinical and clinical development.

An important preclinical milestone in the collaboration with Merck & Co., Inc. was reached in July 2002 through the identification of a drug candidate, which triggered a milestone payment to Karo Bio in the third quarter. In May 2003 Karo Bio received an additional milestone payment for selection of a second drug candidate. In August 2003 further development of the first drug candidate was discontinued. The second compound continues to be studied in preclinical testing.

Karo Bio may receive additional future milestone payments from Merck & Co., Inc., dependent upon the successful progression of compounds to and through clinical trials and approval as well as royalties on sales of such compounds.

Atherosclerosis - Wyeth Pharmaceuticals

Karo Bio entered into a strategic collaboration with Wyeth Pharmaceuticals in September 2001. The parties collaborate in the drug discovery phase with the liver X receptor as a target for treatment of atherosclerosis. There is reason to believe that the liver X receptor is an important target for other metabolic disorders and these are also covered by the collaboration agreement. Wyeth is responsible for preclinical and clinical development as

well as sales and marketing. Karo Bio may receive royalties on future sales revenues and an in-market bonus if certain sales targets are met. The project has made important progress during 2003 with development of lead compounds that have entered animal studies.

Obesity - Bristol-Myers Squibb

The collaboration with Bristol-Myers Squibb, which began in October 1997, has been very productive. The parties have jointly demonstrated proof of concept in animal models for treatment of obesity with novel compounds acting on the thyroid hormone receptor. Bristol-Myers Squibb is responsible for clinical development and sales and will retain world-marketing rights on products developed through the collaboration. Karo Bio will receive milestone payments if compounds advance through development and royalties on future sales. The joint drug discovery phase was completed in spring 2003 and Bristol-Myers Squibb is moving along with selection and characterization of candidate drugs aimed for clinical trials. Karo Bio and Bristol-Myers Squibb have during the year also published an important scientific paper together with scientific collaborators. The paper was published in the August issue of The Proceedings of the National Academy of Sciences USA (P.N.A.S.) and presents strong data in support for the innovative concept of treating obesity with novel and selective thyroid hormone receptor modulators. Apart from significant weight lowering effects the paper showed that such compounds also have the capacity to significantly lower cholesterol and other lipid components that are risk factors for development of cardiovascular disease.

Diabetes - Abbott Laboratories

In 1999 Karo Bio and Abbott Laboratories initiated a joint project for the discovery and development of new treatments for type 2 diabetes. The joint drug discovery phase concluded by the end of 2002 after successfully discovering a new and promising concept for type 2 diabetes based upon the lead compound A-348441 (KB3305). This compound targets the glucocorticoid receptor in the liver, which is known to be an important mechanism for regulating glucose output. In November 2003 Karo Bio obtained all rights to compounds and technologies and is developing the project internally with high priority. Karo Bio has selected KB3305 as an internal candidate drug and initiated internal preclinical development activities aiming at taking the compound towards the clinic.

INTERNAL PROJECTS

Type 2 diabetes and the KB3305 compound

In November 2003 Karo Bio retained all rights to compounds and technologies in the Abbott collaboration including the promising lead compound A-348441 described above. Karo Bio has selected the A-348441

compound as a candidate drug for type 2 diabetes and renamed it to KB3305. The decision to advance this compound was based on the unique and promising profile of KB3305.

In studies involving diabetic and dyslipidemic animals, KB3305 has been shown to normalize blood glucose levels and to lower levels of certain elevated lipids. In addition, KB3305 significantly reduces hepatic glucose output with secondary improvements in insulin sensitivity across multiple animal species. Glucocorticoid receptors are present in a variety of tissues and the KB3305 compound also possesses binding activity to the progesterone receptor. However, KB3305 is pharmacologically selective for the liver, thereby minimizing potential side effects in other parts of the body. One side effect commonly observed with the insulin sensitizers currently being marketed is weight gain; however, no weight gain was observed in animals treated with the KB3305 compound. Karo Bio believes that the KB3305 compound has a great potential due to its unique profile. The compound has an attractive profile for treatment of type 2 diabetes and Karo Bio intends to continue the preclinical development.

Thyroid Hormone Receptors

The thyroid hormone receptor has evolved as an important target for metabolic disorders, such as obesity and dyslipidemia. Karo Bio has taken a leadership in the field and has a vast experience in the area of the thyroid hormone receptor as a target. Karo Bio also has unique technologies that allow the Company to develop receptorand tissue-selective drugs and is now focusing on dyslipidemia as a clinical target. The field of dyslipidemia is dominated by the statins, which are efficacious lipid lowering drugs. However, there is a need for new drugs in the field. In particular, drugs to treat patients who do not respond adequately to statin treatment and drugs with a new mechanism of action that are more efficacious in the lowering of triglycerides are of interest. Thyroid hormones have most of the desired properties since they are very efficacious in lowering of cholesterol and have many other positive effects on the blood lipid profile but cannot be used due to cardiac side effects. Karo Bio has demonstrated that cardiac side effects can be avoided by making compounds that are selective for the betareceptor. Karo Bio has shown that such selective thyroid hormone agonists for the treatment of dyslipidemia (STADs) have the desired properties without detectable cardiac side effects. In addition to significant cholesterol lowering and triglyceride lowering effects, STADs will be efficacious in lowering of important risk factors for development of cardiovascular disease such as lipoprotein (a) and homocysteine. STADs have the potential to become important agents as a monotherapy for mixed dyslipidemia and in combination with other therapies such as

statins. Karo Bio is prioritizing this project and is making good progress in the discovery of novel compounds with the desired profile.

Prostate Cancer and Male Hormone Replacement Therapy

Karo Bio targets the androgen receptor (AR) for the treatment of prostate cancer. Prostate cancer proliferation is driven by androgens and there is a great need to improve on existing antagonists for treatment of the disease. In particular, receptor-specificity and tissue-selectivity need to be improved. Karo Bio is well positioned to discover novel compounds with improved properties and the Company has been successful in the discovery of promising lead compounds by applying novel virtual screening methods building on Karo Bio's unique knowledge about receptor structures and receptor biology. The lead compounds effectively inhibit androgen dependent prostate growth in animal trials. Karo Bio continues the research towards lead compound optimization and preclinical development. Karo Bio's unique assets in this field are in-house pharmacophore models, novel screening technologies for the discovery, selection and characterization of compounds as well as promising lead series of compounds and the exclusive European patent rights to the androgen receptor as a target. In collaboration with scientists at the University of California, San Francisco, Karo Bio has discovered new opportunities during the year to control receptor activity providing a basis for completely new strategies for the treatment of prostate cancer.

Estrogen Receptors

Estrogen receptors are important targets for a wide range of disorders where there is a need for improvement of existing therapies. Estrogens have beneficial effects on a variety of disease conditions but are also associated with side effects. Future drugs targeting estrogen receptors therefore have to be more selective at the tissue and subtype receptor level and thereby target specific clinical indications. New discoveries by Karo Bio and Karo Bio consultants, such as the estrogen receptor beta, have provided opportunities for the development of new innovative therapies for diseases not currently treated with pharmaceuticals targeting the estrogen receptors. During the year Karo Bio prioritized clinical indications and has made progress towards the discovery of lead compounds aimed for testing in relevant animal models. Significant resources were allocated to the project and Karo Bio made important progress in the validation of clinical indications and discovery of new compounds.

Inflammatory Disorders

The glucocorticoid receptor is the target for the antiinflammatory steroids that are very powerful but also are associated with a number of adverse effects. Karo Bio has applied its proprietary technologies, such as Molecular Braille[®], and receptor structures with the purpose to discover new compounds which should be anti-inflammatory but with significantly reduced side effects in relation to compounds on the market. Selected compounds entered animal studies during the year.

EXPLORATORY RESEARCH

Karo Bio continues to strengthen its pipeline of new projects through internal drug discovery and by collaborations within its scientific network. Significant progress has been made during the year in the field of the mineral-ocorticoid receptor (MR) field through the determination of the three-dimensional receptor structure of the hormone-binding domain in complex with the natural hormone aldosterone. MR is an important target for treatment of hypertension and heart failure and there is a need to develop new improved drugs in this area. In particular, there is a need to improve the receptor-selectivity of current drugs. The novel receptor structure information now gives Karo Bio a competitive advantage concerning the design of more selective drugs.

The MR, GR and AR receptors all resemble each other from a structural point of view which is why many drugs acting on these receptors show cross reactivity which limits their use. For this reason the breakthrough in solving of the MR structure should facilitate the design of new and more selective compounds not only for MR itself, but also for GR and AR. Progress in compound characterization and selection has also been made in several areas through receptor structure determinations and through application of the Molecular Braille® technology. During the year, Karo Bio has also been successful in finding lead compounds through virtual screening of compound libraries. To do this, Karo Bio is using proprietary receptor-structure information and can thus in silico select and design compounds that are likely to bind to the target.

ORGANIZATION

In January 2003, Karo Bio announced a reengineering and savings initiative, including a reduction in staff. In November, Karo Bio announced a reduction of its presence in North Carolina, USA, and consolidation of technologies, key projects and other research operations to Sweden. The consolidation is a consequence of the successful integration of the drug discovery technologies, developed by Karo Bio USA, Inc. prior to the acquisition in 2000, into the Karo Bio drug discovery platform in Sweden. Consequently, the majority of the employees were termi-

nated as of November with a small group working with closure of the site and transfer of key activities to Sweden. Karo Bio will maintain a presence in the US through the continued existence of the legal entity Karo Bio USA, Inc. Costs for the reduction in staff and closure of US operations have been expensed during 2003.

The reduction in staff has been primarily in the field of biology. During the year Karo Bio has continued to strengthen its position in chemistry with key recruitments, including a new chemistry department head. Internal resources in pharmacology have also been established for the purpose of supporting internal projects with preclinical development capabilities.

By the end of the year, Karo Bio had 99 (133) employees. Of these, 5 (37) are based in the United States and 78 (105) are engaged in research.

EMPLOYEE STOCK OPTION PROGRAM 2003

An employee stock option program 2003 was unanimously adopted by the shareholders' meeting on April 9, 2003 in accordance with the documentation provided for the meeting. The program covers all permanent employees of Karo Bio. A maximum of 190 000 stock options, representing the same number of shares, can be issued under the program. Stock options will be issued, based on performance, in four series in May 2004, which expire in 2011. The stock options vest and become exercisable in one series per year over a four-year period beginning May 2005. The exercise price is determined to SEK 33, 36, 39, and 44 for each series, respectively.

Karo Bio's obligation to deliver shares under the program is hedged by the issuance of warrants, which will also cover social security charges that may arise from the exercise of stock options. The number of warrants amounts to 241 000, of which 51 000 are to cover social security charges et cetera. Other costs are of an administrative nature and are not expected to be extensive. No employee stock options have yet been issued. Hence, there is no impact on the Company's financial statements at the end of the financial year, except for administrative costs.

NEW SHARE ISSUE

On March 6, 2003 the Karo Bio board of directors decided, subject to the approval by the annual general meeting, on a rights issue with preferential right for existing shareholders. The annual general meeting subsequently approved the decision on April 9, 2003.

The rights issue was implemented in order to secure continued R&D and marketing activities and to provide Karo Bio with a better position when negotiating new collaboration agreements. The new share issue raised MSEK 118.6 after transaction costs.

RESULT

Net sales decreased to MSEK 85.1 as compared to MSEK 177.7 last year. The decrease in revenue is the effect of the ending of research funding to Karo Bio under the joint drug discovery programs with Merck & Co., Inc. and Abbott Laboratories as the joint efforts were completed in October and December 2002, respectively. Current year's revenues included research funding and the year's share of the upfront payment from the research collaboration with Wyeth Pharmaceuticals, research funding from Bristol-Myers Squibb for January-March and the preclinical milestone payment received under the collaboration with Merck & Co., Inc. in May. Recorded revenues were negatively affected by the strengthened SEK against the US Dollar.

Expenses decreased by MSEK 174.1 to MSEK 304.2 (478.3), due primarily to the completion of the amortization of goodwill from the May 2000 acquisition of Karo Bio USA, Inc. Operating expenses also decreased as a result of reorganizations and savings initiatives implemented during the year and the consolidation of research operations to Sweden in November. However, the decrease in costs was partly offset by the costs for the implementations of reorganization charged to earnings in 2003, which amounted to MSEK 11.4. Operating expenses include the cost for a write-down of the remaining goodwill MSEK 10.3 relating to Karo Bio, Inc. as this subsidiary as part of the restructuring of the US operations has been dissolved. The strengthened SEK against the US Dollar had a positive effect on expenses incurred in US Dollar.

The operating loss excluding goodwill expenses amounted to MSEK 124.8 (58.8). Operating loss including goodwill expenses amounted to MSEK 219.2 (300.6). Financial income amounted to MSEK 10.4 (16.1), including currency gains of MSEK 5.6 (6.1) relating to financial items. The reported loss amounted to MSEK 208.7 (284.4).

CASH FLOW

Cash flows from operating activities amounted to MSEK -128.6 (-70.9). The decrease is an effect of the decrease in revenues, which is partially offset by lower expenses. A payment of research funding for the first quarter 2004 was not received prior to December 31, 2003 as it was the previous year.

Cash and cash equivalents and short-term investments amounted to MSEK 184.0 (201.2) at year-end.

CAPITAL INVESTMENTS

Capital investments in equipment amounted to MSEK 3.2 (5.3).

Karo Bio has financed specific larger capital investments through leases. During the year, equipment with a total cost of MSEK 2.1 (-) was financed with capital leases. Consequently, total capital investments amount to MSEK 5.2.

Capital investments relate primarily to laboratory equipment for chemistry and an expansion in chemistry laboratories.

SHAREHOLDERS' EQUITY AND PER SHARE DATA

At year-end, warrants representing 623 430 shares were outstanding. The warrants were issued in conjunction with the acquisition of Karo Bio USA, Inc. in 2000 (warrants representing 15 230 shares), the implementation of the Stock Option Program 2001 (warrants representing 367 200 shares after adjustment for the effect of the rights issue in accordance with the terms of the program) and the Stock Option Program 2003 as resolved by the shareholders' meeting April 9, 2003 (warrants representing 241 000 shares).

The share capital at the end of the year amounted to kSEK 84 390. The total number of shares amounted to 16 878 054 shares at a par value of SEK 5. The number of shares increased by 4 821 850 from the new share issue and by 3 547 from exercise of warrants. Total consolidated shareholders' equity amounted to MSEK 174.9 after taking into account the loss for the year.

Loss per share, based on the weighted average number of shares outstanding, amounted to SEK 13.76 (22.19). The Group's equity ratio as of year-end was 76.3 percent (76.8) and equity per share at year-end was SEK 10.36 (20.97).

PARENT COMPANY

The Parent Company recorded revenues amounting to MSEK 84.5 (172.8) and is reporting a loss after financial items of MSEK 134.4 (751.0). The loss for 2002 included a write-down of the shares in the subsidiary Karo Bio USA, Inc. by MSEK 691.5.

Capital investments in equipment amounted to MSEK 3.8 (4.5).

Cash and cash equivalents and short-term investments amounted to MSEK 181.5 (198.1) at year-end.

THE WORK OF THE BOARD OF DIRECTORS

The work of the board of directors follows a board policy, which sets standards for the frequency and agenda of board meetings, pre-circulation of material for meetings, and matters to be brought to the board for information or decision. A section of the policy also regulates the division of responsibility between the board, the chairman of the board and the president, as well as defines the president's authority. The chairman prepares the board meetings together with the president. In addition to deciding on strategy, scientific, marketing and financial plans, the board reviews the development and performance of the Company. Presentations are made by the president and executive management at each scheduled board meeting on operating development, including development and progress within research and business

development, and financial reports and forecasts. The board makes the decisions in important areas such as material agreement, budget, finance policy and larger capital expenditures. The board held seven scheduled and five additional board meetings during the year.

The Company's independent auditor reports on the audit directly to the board by making presentations on board meetings from the audit performed. Audit-related matters have been considered so important that they should be dealt with by the board and not by a separate committee.

A Compensation Committee, consisting of three board members including the chairman of the board, is handling questions regarding executive management's compensation and benefits, including that of the president. Per-Olof Mårtensson, chairman, Dr Leon E. Rosenberg and Lars Ingelmark, replacing Dan Sten Olsson in April 2003, served on the Committee during 2003. The Committee prepares remuneration matters for board consideration and makes decisions in compensation matters of lesser significance. The board makes all policy decisions regarding remuneration of executive management and the salary of the president.

A Nominating Committee has been appointed in accordance with the decision at the shareholders' meeting in April 2003. The Committee consists of Ramsay Brufer, Alecta Pension Insurance, Björn Franzon, Fourth Swedish National Pension Fund, Thomas Ehlin, Nordea Bank and Per-Olof Mårtensson, chairman of the Karo Bio board of directors.

FUTURE DEVELOPMENT

The Karo Bio Business model is based upon the goals of minimizing risk and maximizing long-term revenue. The Company has three strategic collaborations with pharmaceutical companies where two of these are drug discovery collaborations and one is in the preclinical development phase. All of these collaborations have the potential to generate products for markets with high value and considerable opportunity.

At the stage of clinical development, the possibility of setbacks in individual projects always exists, particulary due to issues such as human safety and efficacy. Karo Bio reduces this business risk by managing multiple projects with partners concurrently.

Karo Bio's pipeline contains several promising research projects for high market potential therapeutic areas, and the Company expects new collaborations. Karo Bio is integrating forward with development of its own compounds and therefore expects new collaborations to be built around chemical compounds rather than around receptors as targets. Karo Bio also believes that nuclear receptors will grow in importance as targets for pharmaceutical development and that this development will increase the business opportunities for the Company.

IFRS ADOPTION

Effective 2005, companies listed on a stock exchange within the European Union are required to present consilidated financial statements in accordance with International Financial Reporting Standards (IFRS) issued by International Accounting Standards Board (IASB). Companies listed on the Stockholm Stock Exchange (Stockholmsbörsen) are required to comment on the preparation for the transition to IFRS in the annual report. The Swedish Financial Accounting Standards Council has already started the transition by during the recent several years issuing several new accounting standards, which are based on IFRS.

Karo Bio has initiated a process for the transition involving studies of IFRS to identify differences between IFRS and applied accounting principles and planning the actual transition.

Karo Bio does not expect the IFRS transition to have any material effect on the Company's financial statements other than presentational changes and disclosures with the exeption for IAS 39 Financial Instruments: Recognition and Measurement. This expectation is based on the IFRS standards issued prior to December 31, 2003 required to be implemented by 2005.

One area where differences may occur is accounting for stock-based compensation. However, there is as of December 31, 2003 no accounting standard issued by IASB in this area. Hence, it is not possible to determine possible differences.

PROPOSED TREATMENT OF LOSS

The Group's aggregate deficit amounts to kSEK 208 741 according to the consolidated balance sheet. The board of directors and the president recommend that the Parent Company's aggregate deficit of SEK 134 422 984 be covered by SEK 134 422 984 from the share premium reserve.

The Company's net result for the financial year and financial position as of December 31, 2003 are shown on the appended income statement, balance sheet, cash flow statement and statement of changes in shareholders' equity and notes to the accounts, which are an integral part of the financial statements.

Income Statements

kSEK		GROUP F				PARENT COMPANY		
	Note	2003	2002	2001	2003	2002		
Net sales	1	85 081	177 746	136 853	84 448	172 789		
Operating expenses	2,3							
Administrative expenses		-45 381	-54 673	-58 734	-36 898	-44 839		
Research and development expenses		-166 809	-175 586	-160 622	-190 449	-195 792		
Amortization and write-down of goodwill	10	-94 349	-241 796	-241 796	-	-		
Other operating income and expenses	4	2 297	-6 249	-10 020	2 602	-6 249		
		-304 242	-478 304	-471 172	-224 745	-246 880		
Operating loss		-219 161	-300 558	-334 319	-140 297	-74 091		
Income from financial investments								
Result from group companies	12	-	-	-	-3 592	-691 490		
Interest income and other similar income	5	11 026	16 909	14 885	11 002	16 886		
Interest expenses and other similar expenses	6	-606	-776	-1 480	-1 536	-2 321		
		10 420	16 133	13 405	5 874	-676 925		
Loss after financial items		-208 741	-284 425	-320 914	-134 423	-751 016		
Tax	7	-	-	-	-	-		
LOSS FOR THE YEAR		-208 741	-284 425	-320 914	-134 423	-751 016		
Loss per share based on weighted-average number of shares outstanding (SEK)	8	-13.76	-22.19	-25.09				

Balance Sheets

ASSETS (kSEK)		GROUP			PARENT COMPANY		
At December 31	Note	2003	2002	2001	2003	2002	
Non-current assets							
Intangible assets							
Licenses and similar rights	9	3 983	13 848	23 713	12 123	35 635	
Goodwill	10	-	94 349	336 145	-	-	
		3 983	108 197	359 858	12 123	35 635	
Tangible assets							
Equipment	11, 17	23 916	30 063	38 762	21 214	25 429	
Financial assets							
Shares in group companies	12	-	-	-	23 100	26 692	
Total non-current assets		27 899	138 260	398 620	56 437	87 756	
Current assets							
Current receivables							
Accounts receivable - trade		6 248	693	1 672	6 248	163	
Other receivables		3 677	4 185	1 329	3 572	4 042	
Prepaid expenses and accrued income	13	7 156	6 122	4 407	6 893	4 387	
		17 081	11 000	7 408	16 713	8 592	
Short-term investments	14	174 234	184 866	214 769	174 234	184 866	
Cash and cash equivalents		9 813	16 296	67 529	7 249	13 206	
Total current assets		201 128	212 162	289 706	198 196	206 664	
TOTAL ASSETS		229 027	350 422	688 326	254 633	294 420	

SHAREHOLDERS' EQUITY AND LIA	BILITIES (kSEI	K)	GROUP		PARENT COMPANY		
At December 31	Note	2003	2002	2001	2003	2002	
Shareholders' equity	15						
Restricted equity							
Share capital		84 390	60 263	60 130	84 390	60 263	
Restricted reserves		299 201	493 222	818 467	231 442	887 334	
Non-restricted equity		383 591	553 485	878 597	315 832	947 597	
Loss for the year		-208 741	-284 425	-320 914	-134 423	-751 016	
		-208 741	-284 425	-320 914	-134 423	-751 016	
Total shareholders' equity		174 850	269 060	557 683	181 409	196 58	
Non-current liabilities	16						
Payables to group companies		-	-	-	3 111	7 372	
Other non-current liabilities	17	4 768	8 078	13 939	3 355	8 078	
Total non-current liabilities		4 768	8 078	13 939	6 466	15 450	
Current liabilities							
Accounts payable - trade		7 001	11 977	16 462	6 481	11 058	
Payables to group companies		-	-	-	22 856	12 30	
Other current liabilities	17	5 716	5 713	2 799	5 165	5 674	
Accrued expenses	18	19 538	18 340	21 918	15 102	16 095	
Deferred income		17 154	37 254	75 525	17 154	37 254	
Total current liabilities		49 409	73 284	116 704	66 758	82 389	
TOTAL SHAREHOLDERS' EQUITY AND LIABILITIES		229 027	350 422	688 326	254 633	294 420	
Pledged assets Contingent liabilities	19	- 36 976	- 33 769	30 982	- 36 976	33 769	

Cash Flow Statements

ksek		GROUP		PARENT COMPANY		
Note	2003	2002	2001	2003	2002	
Operating activities						
Operating loss before financial items	-219 161	-300 558	-334 319	-140 297	-74 091	
Depreciation, amortization						
and write-down 3	114 617	264 430	258 880	31 550	33 022	
Other items not affecting cash flows	345	-	-	73	-	
	-104 199	-36 128	-75 439	-108 674	-41 069	
Financial income received	5 033	10 721	11 196	5 009	9 407	
Other financial items paid	-604	-1 590	-1 545	-1 535	-2 321	
Cash flow from operating activities before changes in working capital	-99 770	-26 997	-65 788	-105 200	-33 983	
working capital	-99 770	-20 997	-03 700	-103 200	-33 963	
Changes in working capital						
Changes in current operating receivables	-5 063	-3 531	6 589	-7 101	-2 195	
Changes in accounts payable	-4 976	-4 485	6 975	-4 577	-4 474	
Changes in other	1 37 0	1 100	0 77 0	10,,	1 1/ 1	
current operating liabilities	-18 813	-35 841	40 371	-6 577	-28 073	
Cash flow from operating activities	-128 622	-70 854	-11 853	-123 455	-68 725	
Investing activities						
Investment in licenses and similar rights	-3 884	-5 110	-10 700	-7 907	-10 220	
Investment in equipment	-3 237	-5 305	-24 250	-3 823	-4 526	
Sale of equipment	32	-	-	-	-	
Cash flow from investing activities	-7 089	-10 415	-34 950	-11 730	-14 746	
Cash flow from operations	-135 711	-81 269	-46 803	-135 185	-83 471	
Cush from operations	100 / 11	01 209	10 000	100 100	00 171	
Financing activities						
Proceeds from new share issues	118 596	133	134	118 596	133	
Cash flow from financing activities	118 596	133	134	118 596	133	
CACH ELOM EOD THE VEAD	15 115	01 126	46,660	16 500	92.229	
CASH FLOW FOR THE YEAR	-17 115	-81 136	-46 669	-16 589	-83 338	
Liquid assets at the beginning of the year	201 162	282 298	328 967	198 072	281 410	
Liquid assets at the end of the year	184 047	201 162	282 298	181 483	198 072	
Liquid assets at the end of the year consist of the following assets						
Short-term investments	174 234	184 866	214 769	174 234	184 866	
Cash and cash equivalents	9 813	16 296	67 529	7 249	13 206	
	184 047	201 162	282 298	181 483	198 072	

Statements of Changes in Shareholders' Equity

Group (kSEK) Note	Share capital	Restricted reserves	Loss for the year	Total
Amount at January 1, 2001	59 996	1 034 924	-213 323	881 597
Crawon on two polation differences		-3 132		-3 132
Currency translation differences New issues of shares - warrants exercise	134	-3 132 -2		-5 132 132
Allocation from restricted reserves, net	134	-213 323	213 323	0
Loss for the year		210 020	-320 914	-320 914
Amount at December 31, 2001	60 130	818 467	-320 914	557 683
Currency translation differences		-4 331		-4 331
New issues of shares - warrants exercise	133			133
Allocation from restricted reserves, net		-320 914	320 914	0
Loss for the year			-284 425	-284 425
Amount at December 31, 2002	60 263	493 222	-284 425	269 060
		,		
Currency translation differences		-4 720		-4 720
New issues of shares	24.100	04.460		110 570
- rights issue	24 109	94 469		118 578
- warrants exercise Issue of warrants 15	18	655		655
Allocation from restricted reserves, net		-284 425	284 425	000
Loss for the year		-204 423	-208 741	-208 741
Amount at December 31, 2003	84 390	299 201	-208 741	174 850
Parent Company (kSEK)	Share	Share premium	Loss for	
Note	capital	reserve	the year	Total
Amount at January 1, 2002	60 130	976 960	-89 626	947 464
·				
New issues of shares - warrants exercise	133			133
Treatment of loss		-89 626	89 626	0
Loss for the year			-751 016	-751 016
Amount at December 31, 2002	60 263	887 334	-751 016	196 581
New issues of shares				
- rights issue	24 109	94 469		118 578
- warrants exercise	18			18
Issue of warrants 15		655		655
Treatment of loss		-751 016	751 016	0
Loss for the year			-134 423	-134 423
Amount at December 31, 2003	84 390	231 442	-134 423	181 409

Accounting and Valuation Principles

The accounting and valuation principles applied are consistent with provisions of the Swedish Annual Accounts Act and standards issued by the Swedish Financial Accounting Standards Council (the Council). Unless otherwise stated, the accounting principles are unchanged in comparison with the preceding year.

Amounts are expressed in kSEK (thousands of Swedish Kronor) unless otherwise indicated. MSEK is an abbreviation for millions of SEK. Amounts or figures in parentheses indicate comparative figures for 2002, as well as 2001 for the Group.

NEW ACCOUNTING STANDARDS

New accounting standards by the Council effective January 1, 2003 and applicable to Karo Bio are RR 22 Presentation of Financial statements, RR 25 Segment Reporting, RR 26 Events after the Balance Sheet Date, and RR 27 Financial Instruments - Disclosures and Classification.

RR 27 Presentation of Financial Statements was implemented in 2001. The other standards mentioned above were implemented in 2003. The new standards have not led to any changes in applied accounting policies.

RR 29 Remuneration to Employees, effective January 1, 2004, is not expected to lead to any changes in applied accounting policies.

CONSOLIDATED FINANCIAL STATEMENTS

The consolidated financial statements have been prepared in accordance with the purchase accounting method under the accounting standard RR 1:00 issued by the Council. Thus, in addition to the Parent Company's equity, only the result from the subsidiaries' operations after the date of acquisition is included in the Group's equity. The difference between the Group's cost for the shares in the subsidiaries and the fair value of identifiable assets and liabilities at the time of acquisition is reported as goodwill and is amortized over its estimated useful life.

The consolidated financial statements include all subsidiaries. A subsidiary is a company in which the Parent Company directly or indirectly owns shares representing more than half of the votes.

Karo Bio applies the current method for translation of the financial statements of foreign subsidiaries. This means that assets and liabilities of the subsidiaries are translated at the closing day rate and income statement items are translated at the average rate. Currency translation differences are charged directly to equity.

REVENUES

Karo Bio is currently receiving three types of revenues from its strategic collaborative research projects: upfront payments, research funding and milestone payments. Upfront payments are received at the initiation of collaborations and are nonrefundable. Research funding is received periodically as a fixed amount for a defined number of scientists working in the project. Milestone payments are recognized when compounds enter or pass a major step in the development process, as defined in the research collaboration agreement.

Research funding is reported as revenue in the period during which Karo Bio scientists are engaged in a collaboration in accordance with the research agreement. Upfront payments are reported as revenue over the collaborative research period for which Karo Bio is receiving research funding as specified in the research collaboration agreement, which usually is three years. Milestone payments are reported as revenue when all requirements specified in the research collaboration agreement for earning the milestone are met.

Other types of revenue are recorded when earned.

INCOME TAXES

As required by RR 9 Income Taxes issued by the Council, deferred income taxes on temporary differences between the tax basis of assets and liabilities and their carrying amounts in the financial statements are provided for in full, using the liability method.

ASSETS AND LIABILITIES

Assets and liabilities are stated at cost and nominal value respectively, unless otherwise indicated. Receivables are stated at the amounts expected to be received based on individual assessment.

TRANSACTIONS IN FOREIGN CURRENCIES

Karo Bio's reporting currency is Swedish Kronor.

Receivables and payables in foreign currencies are translated at the exchange rate at the closing day. Revenues and expenses are translated at the exchange rate for the month in which the transaction occurred.

The majority of the Group's revenues are received in US Dollars while most expenses are incurred in Swedish Kronor or US Dollars. To reduce the Group's exposure to fluctuations in currency exchange rates, forecasted net cash flows in foreign currencies are hedged through forward currency agreements.

Unrealized gains and losses on forward currency contracts relating to forecasted transactions are deferred and reported when realized. The forward currency premium is amortized over the life of the contract.

NON-CURRENT ASSETS

Tangible and intangible non-current assets are depreciated and amortized, using a straight-line depreciation and amortization method, over their estimated useful life based on the assets cost as per the following schedule.

Goodwill	3-10 years
Licenses	3-10 years
Laboratory equipment	4-7 years
Leasehold improvements, IT equipment	
and other equipment	4 years

Goodwill from the acquisition 2000 of Karo Bio USA, Inc. (formerly Novalon Pharmaceutical Corporation) is being amortized over a three-year period. Based on rapid development within the biotech area, a longer amortization period is not justified. Goodwill from the acquisition of Karo Bio, Inc. (formerly Serra Pharmaceuticals, Inc.) in 1996 is being amortized over ten years based on the estimated life of the technology and intangible rights included in the acquisition.

Depreciation of the exclusive rights to technology licensed from Duke University (see Note 9) is being taken over a three-year period, beginning in May 2001. Due to rapid development in the biotech area, a longer depreciation period is not considered appropriate. The milestone payments under this agreement will be expensed as incurred in order to match expected milestone payments received from partners.

Non-current assets are regularly assessed for impairment in accordance with the accounting standard RR 17 regarding impairments.

SHORT-TERM INVESTMENTS

Short-term investments in debt instruments are stated at the lower of cost or market value. Any premium or discount on investments intended to be held to maturity is amortized over the life of the instrument.

RESEARCH AND DEVELOPMENT

Costs regarding development activities shall, as stipulated by RR 15 Accounting for Intangible Assets, be capitalized and reported in the balance sheet if certain criteria are met, while costs for research activities shall be expensed. One important criterion for capitalization of development costs relate to the future economic benefit from the result of such activities. Any development activities Karo Bio is engaged in is exposed to such high level of uncertainty regarding the future economic benefit as per RR 15 that the criteria are not met. Consequently, all costs for research and development are expensed as incurred.

PENSION COSTS

Pension costs are reported in accordance with general accounting practice for pension costs in each respective country.

LEASING

Karo Bio has entered into leasing contracts with third parties in the ordinary course of business. These contracts are for office and laboratory space, laboratory equipment, automobiles and other equipment. Leasing contracts are classified as either financial or operating depending on the terms of the lease. A capital lease is a contract where the economic risks and rewards related to ownership of an asset in all material respects belongs to Karo Bio. All other contracts are considered operational leases.

Capital leases are in essence reported as installment purchase contracts, where the equipment under lease is recorded as an asset and the net present value of future minimum lease payments are recorded as a liability. Equipment is being depreciated as described under the heading Noncurrent assets.

Lease payments regarding operating leases are expensed in the period they relate to.

All leases are treated as operating leases in the Parent Company's stand-alone accounts.

STOCK OPTION PROGRAM COSTS

Stock-based compensation is accounted for in shareholders' equity when stock options are exercised, whereas the nominal value of issued shares is credited to share capital and exercise price less nominal value is credited to the share premium reserve. See also Note 23 Stock Option Programs.

CASH FLOW STATEMENTS

The cash flow statements are presented in accordance with the indirect method as per RR 7 Cash Flow Statements. The reported cash flows entail only transactions involving cash payments.

Liquid assets consist of cash, cash equivalents and shortterm investments.

SEGMENT REPORTING

Karo Bio's operations entails only one segment, drug discovery, and the consolidated income statement and balance sheet are therefore the primary segment. Geographical areas are secondary segments and entail Europe, NAFTA and the rest of the world.

Notes to the Financial Statements

NOTE 1 NET SALES

Net sales consist of research funding, milestone payments and the year's share of upfront payments from the Company's partners.

NOTE 2 PERSONNEL AND REMUNERATION TO MEMBERS OF THE BOARD AND EXECUTIVE MANAGEMENT

Average number of employees

	200	3	2	002	20	001
	Number of employees	Thereof men	Number of employees	Thereof men	Number of employees	Thereof men
Parent Company						
Huddinge, Sweden	92	50	96	46	87	44
Subsidiaries						
USA	25	14	37	18	35	18
Group	117	64	133	64	122	62

Wages, salaries, other remuneration and social security expenses

	20	03	2	002	2	2001
Parent Company	Wages, salaries and other remuneration	Social security expenses (of which pension costs)	Wages, salaries and other remuneration	Social security expenses (of which pension costs)	Wages, salaries and other remuneration	Social security expenses (of which pension costs)
Board and presidents	3 435	1 497	2 953	1 307	7 080	2 610
		(398)		(392)		(317)
Other employees	42 916	23 141	40 641	21 383	34 873	16 786
		(7 552)		(6 760)		(4 397)
Subsidiaries						
USA	21 796	1 653	25 785	1 926	29 278	1 762
Group	68 147	26 291	69 379	24 616	71 231	21 158
		(7 950)		(7 152)		(4 714)

Of wages, salaries and other remuneration paid by the Group and the Parent Company, kSEK 2 337 (2 043 and 6 480, respectively) refers to the presidents.

Leave of absence due to sickness

January 1 - December 31	2003	2002	
Parent Company			
Leave of absence due to sickness, total	2.2 %	2.3 %	
whereof long-term leave of absence	1.0 %	0,4 %	
Leave of absence,			
men	1.0 %	1.1 %	
women	3.6 %	3.3 %	
Leave of absence, employees			
under 30 years of age	- %	4.1 %	
30 - 50 years of age	2.3 %	2.2 %	
over 50 years of age	1.2 %	- %	

The information provided relates, in accordance with the Swedish Annual Accounts Act, to Swedish employees only. Information has been intentionally omitted where a group of employees is too small to disclose.

Remuneration to Members of the Board

The board consists of seven directors elected by the share-holders' meeting with two deputy directors and two representatives with deputies appointed by the employee organizations. Three of these thirteen persons are women.

The chairman of the board receives annual remuneration of kSEK 390 and each board member, who is not paid as an employee or consultant by the Company, receives kSEK 130 based on the decision at the shareholders' meeting April 9, 2003. A total of kSEK 1 040 (910) in remuneration was paid as directors' fee to board members during 2003. Members of the board are also reimbursed for direct expenses, such as travel related costs. No separate remuneration is paid for committee engagements.

Two deputy board members, Dr John D. Baxter, professor at University of California, San Francisco and Dr Jan-Åke Gustafsson, professor at Karolinska Institutet, Stockholm, currently provide scientific consulting services to the Company and are therefore paid no remuneration for their service as directors. Fees for scientific services provided, amounting to kSEK 617 (740) and 960 (960) respectively, was paid to these deputy board members. Dr. Leon E. Rosenberg, professor at Princeton University provided significant scientific services to the Company in relation to a scientific advisory panel arranged by Karo Bio, for which he was paid kSEK 58 (-). No other remuneration was paid to members of the board in 2003.

Karo Bio has an extensive academic network that is of utmost importance for the Company's success. Karo Bio has different types of collaborations with the institutions in the network. The network also includes academic institutions where members of the Karo Bio board hold professorships. These individuals do not participate in the preparation of or decisions regarding financial terms in these collaborations in cases that involve an institution where the board member is employed.

Remuneration to Executive Management

A Compensation Committee, consisting of three board members including the chairman of the board, is handling questions regarding executive management's compensation and benefits, including that of the president. Per-Olof Mårtensson, chairman, Dr Leon E. Rosenberg and Lars Ingelmark, replacing Dan Sten Olsson in April 2003, served on the Committee during 2003. The Committee prepares remuneration matters for board consideration and makes decisions in compensation matters of lesser significance. The board makes all policy decisions regarding remuneration of executive management and the salary of the president.

Members of executive management are paid a fixed monthly salary and participate in an incentive bonus program. The program is linked to the achievement of goals set by the Compensation Committee. The maximum bonus for individuals covered by the program is equal to 20 percent of their annual base salary. The monetary information below regarding

bonus represents bonus for 2003, which is paid in 2004. Other benefits provided to executive management are company cars and health care. Executive management is entitled to pension benefits in accordance with the nation-wide ITP Plan. The pension benefits are per se defined benefits, but through the Company's agreement with the plan provider Alecta Pension Insurance, premiums are paid to Alecta Pension Insurance to cover future pension payments. Pension benefits are based on a retirement age of 65 years and are paid as long as the retiree lives. Paid salary including bonus qualifies for pension benefits. The ITP Plan provides for no pension benefits for annual salaries currently exceeding kSEK 1 227.

Executive management is eligible to participate in companywide stock-based incentive programs. No allocation was made to executive management during 2003. See Note 23 Stock Option Programs for further information.

During 2003 executive management consisted of six persons in addition to the president, of which one is female. The persons are: Anders Berkenstam, vice president R&D Sweden; Berit Edlund, director Human Resources; Paul Hamilton, vice president R&D USA, Mats Johnson, vice president Marketing & Business Development; Bertil Jungmar, chief financial officer; and Per Otteskog, senior vice president Investor Relations.

The president received a total fixed salary of kSEK 2 212 (2 005) in 2003 and a bonus amounting to kSEK 138 (132). Pension cost amounted to kSEK 398 (392) and other benefits amounted to kSEK 95 (89). In addition to the benefits in accordance with the ITP Plan as per above, the president is entitled to an annual pension of approximately kSEK 125 (123). The pension benefit is secured through an agreement with a life insurance company and premiums are paid annually. The president held stock options representing 21 600 (20 000) shares at year-end.

Other members of executive management received in total fixed salary of kSEK 6 567 (6 257) in 2003 and bonus amounting to kSEK 464 (499). Pension cost amounted to kSEK 1 680 (1 325) and other benefits amounted to kSEK 211 (230). Severance payment amounted to kSEK 873 (-). Other members of executive management held stock options at year-end in total representing 35 935 (26 000) shares.

Agreements regarding severance pay

The president has a mutual termination period of six months and is entitled to two years salary as severance pay if terminated by the Company. Other members of executive management has a mutual termination period of up to six months and are entitled to severance pay of up to two years salary.

NOTE 3 DEPRECIATION. AMORTIZATION AND WRITE-DOWN

Depreciation, amortization and write-down cost is allocated to the Company's functions and types of assets as follows.

			PARENT COMPANY			
Function		2003	2002	2001	2003	2002
Administrative expenses		2 436	3 425	2 264	2 172	2 798
Research and development e	expenses	17 832	19 209	14 820	29 378	30 224
Goodwill		94 349	241 796	241 796	-	-
Type of asset		114 617	264 430	258 880	31 550	33 022
Licenses	(Note 9)	9 865	9 865	6 068	23 512	23 512
Goodwill	(Note 10)	94 349	241 796	241 796	-	-
Equipment	(Note 11)	10 403	12 769	11 016	8 038	9 510
		114 617	264 430	258 880	31 550	33 022

NOTE 4 OTHER OPERATING INCOME AND EXPENSES

Other operating income and expenses include success fees, royalty to the Swedish Industrial Development Fund (for further information see note 19), and exchange gains and

losses on transactions in foreign currency. Net exchange gains and losses amount to kSEK 3 563 (-4 667 and -6 293, respectively).

NOTE 5 INTEREST INCOME AND OTHER SIMILAR INCOME

	GROUP PARENT COMP.				COMPANY
	2003	2002	2001	2003	2002
Interest income	3 719	3 211	4 935	3 695	3 188
Capital gains from short-term investments	1 750	7 570	6 446	1 750	7 570
Exchange differences	5 557	6 128	3 504	5 557	6 128
	11 026	16 909	14 885	11 002	16 886

NOTE 6 INTEREST EXPENSE AND OTHER SIMILAR EXPENSES

The Parent Company interest expense includes inter-company interest expense amounting to kSEK 956 (1549).

NOTE 7 TAX

Because the Company is reporting losses for tax purposes, the Company is not currently paying any income taxes. Therefore, the existing unutilized tax losses carried forward from prior years have not been assigned a value in the financial statements, since it is not likely that they will be utilized in the next few years.

At year-end, the Parent Company's unutilized tax losses carried forward amounted to MSEK 769 (622). In addition, there are losses carried forward of MSEK 29 (46) in subsidiaries. The tax losses carried forward in the US subsidiaries expire after 15 years and may be subject to limitations under the rules regarding a change in ownership as determined by the Internal Revenue Code.

Unrecognized temporary differences relating to investments in subsidiaries in accordance with RR 9 Income Taxes amount to MSEK 681 (642 and 429, respectively) for the Group. These differences, which are deferred tax assets, are primarily due to the fact that the tax basis for investments in subsidiaries are the shares in subsidiaries while the carrying amount in financial statements is affected by goodwill amortization and write-downs and results in subsidiaries, leading to differences in tax basis which, in accordance with RR 9 Income Taxes, are not recognized. The corresponding amount for the Parent Company is MSEK 695 (744).

NOTE 8 LOSS PER SHARE

Warrants are non-dilutive as exercise of warrants would decrease the loss per share reported for 2001-2003. Per share data is calculated based on the following number of shares.

Number of shares outstanding (000)	2003	2002	2001	
Weighted-average during the year	15 169	12 820	12 792	
At year-end	16 878	12 830	12 802	

The number of shares for the period prior to the rights issue 2003 has been adjusted for the bonus element in accordance with RR 18 Earnings per share.

NOTE 9 LICENSES AND SIMILAR RIGHTS

Licenses and similar rights consist of exclusive rights to technologies licensed from Duke University, Durham, North Carolina in 2001 and licenses from University of California, San Francisco for scientific rights that were acquired in 1996.

In May 2001, Karo Bio reached an agreement with Duke University granting Karo Bio the exclusive rights to certain technologies, including Cellular Braille™, developed at Duke University Medical Center. The Cellular Braille $^{\text{TM}}$ technology further expands the capabilities of the Molecular Braille® technology that was previously developed by Karo

Bio USA in collaboration with scientists at Duke University Medical Center. The amount capitalized represents the net present value of the determinable payments according to the agreement. Payments will be made over a four-year period. Additional payments, of lesser amounts, contingent on patents being received and milestones being achieved are provided for in the agreement.

In 2001, as part of the Company's transfer pricing policy, the Parent Company acquired certain rights to technologies from the wholly-owned subsidiary Karo Bio USA, Inc.

		GROUP			PARENT COMPANY		
	2003	2002	2001	2003	2002		
Opening balance acquisition cost	30 319	30 319	1 048	71 259	71 259		
Acquisitions	-	-	29 271	-	-		
Closing balance acquisition cost	30 319	30 319	30 319	71 259	71 259		
Opening balance depreciation	-16 471	-6 606	-538	-35 624	-12 112		
Depreciation for the year	-9 865	-9 865	-6 068	-23 512	-23 512		
Closing balance accumulated depreciation	-26 336	-16 471	-6 606	-59 136	-35 624		
Net book value	3 983	13 848	23 713	12 123	35 635		

NOTE 10 GOODWILL

		GROUP	
	2003	2002	2001
Opening balance acquisition cost	761 483	761 483	761 483
Acquisitions	-	-	-
Closing balance acquisition cost	761 483	761 483	761 483
Opening balance amortization	-667 134	-425 337	-183 540
Amortization for the year	-84 036	-241 797	-241 797
Write-down for the year	-10 313	-	-
Closing balance accumulated amortization	-761 483	-667 134	-425 337
Net book value	-	94 349	336 146

The remaining goodwill MSEK 10.3 relating to Karo Bio, Inc. has been written down since this subsidiary as part of the restructuring of the US operations has been dissolved.

NOTE 11 EQUIPMENT

	GROUP			PARENT	COMPANY
	2003	2002	2001	2003	2002
Opening balance acquisition cost	95 454	94 726	69 409	84 257	80 353
Acquisitions	5 184	5 305	24 250	3 823	4 526
Sales and discards	-8 705	-1 573	-521	-7 688	-622
Exchange difference	-2 368	-3 004	1 588	-	-
Closing balance acquisition cost	89 565	95 454	94 726	80 392	84 257
Opening balance depreciation	-65 391	-55 964	-44 742	-58 828	-49 940
Sales and discards	8 401	1 573	521	7 688	622
Depreciation for the year	-10 403	-12 769	-11 016	-8 038	-9 510
Exchange difference	1 744	1 769	-727	-	-
Closing balance accumulated depreciation	-65 649	-65 391	-55 964	-59 178	-58 828
Net book value	23 916	30 063	38 762	21 214	25 429

NOTE 12 SHARES IN GROUP COMPANIES

PARENT	COMPANY
2003	2002
774 724	774 724
-52 384	-
722 340	774 724
-748 032	-56 542
-3 592	-691 490
52 384	-
-699 240	-748 032
23 100	26 692
	2003 774 724 -52 384 722 340 -748 032 -3 592 52 384 -699 240

Subsidiary	Domicile	Reg.no.	Holding	No. of Shares	Book value
Karo Bio USA, Inc.	North Carolina, USA	56-1966375	100%	1 000	23 000
Karo Bio Research AB	Huddinge, Sweden	556588-3641	100%	1 000	100
					23 100

The shares in Karo Bio USA, Inc. were written down in 2002 by kSEK 691 490 to an amount corresponding to equity in the subsidiary. The write-down was based on the same view that served as the basis for the amortization period for the related goodwill in the consolidated financial statements, namely the rapid development and uncertainty in the biotech area. The operations of Karo Bio USA, Inc. have been closed in November 2003 and transferred to the Parent

Company in Sweden. As a consequence, a write-down by kSEK 3 500 was made to an amount corresponding to equity in the subsidiary as of December 31, 2003, which corresponds to net assets net realizable value. The write-downs had no effect on the Karo Bio Group and the consolidated financial statements, where the related goodwill was fully amortized as of April 30, 2003 according to plan.

NOTE 13 PREPAID EXPENSES AND ACCRUED INCOME

		GROUP			PARENT COMPANY	
At December 31	2003	2002	2001	2003	2002	
Prepaid rent	2 595	2 749	2 822	2 595	2 576	
Accrued interest income	1 519	1 083	211	1 519	1 083	
Other	3 042	2 290	1 374	2 779	728	
	7 156	6 122	4 407	6 893	4 387	

NOTE 14 SHORT-TERM INVESTMENTS

Short-term investments consist of investments in highly liquid bonds with maturities of less than five years and investments in highly liquid fixed income mutual funds. Investments

in fixed income mutual funds amounted to kSEK 116 127 (115 236 and 194 496, respectively) and investments in bonds amounted to kSEK 58 107 (69 630 and 20 273, respectively).

NOTE 15 SHAREHOLDERS' EQUITY

Share capital consists of 16 878 054 shares at a par value of SEK 5.

Accumulated currency translation difference amounts to kSEK -11 837 (-7 117 and -2 786, respectively).

Proceeds from new share issues, in excess of par value, are credited to the Share Premium Reserve as required by the Swedish Annual Accounts Act. The Share Premium Reserve is not available for distribution to shareholders as dividend, but can be utilized by the general shareholders' meeting to cover accumulated losses.

During the year, a new shares issue with preferential rights to existing shareholders was carried out, leading to 4 821 850 new shares. The rights issue generate kSEK 118 578 net of transaction costs amounting to kSEK 6 790.

Warrants were issued to a third party to be held to hedge

payroll taxes regarding stock option program 2003. The amount kSEK 655 represents the fair value of issued warrants, which were issued at no cost.

At year-end, warrants representing 623 430 shares were outstanding. The warrants were issued in conjunction with the acquisition of Karo Bio USA, Inc. in year 2000 (warrants representing 15 230 shares) and the implementation of the Stock Option Program 2001 (warrants representing 367 200 shares) and Stock Option Program 2003 (warrants representing 241 000 shares). Warrants were exercised during 2003 leading to 3 547 new shares.

In accordance with the board's policy for dividend, the board of directors and the president will propose to the annual shareholders' meeting on April 21, 2004, that no dividend be paid for the financial year 2003.

NOTE 16 NON-CURRENT LIABILITIES

None of the non-current liabilities falls due more than five years after the balance sheet date.

NOTE 17 CAPITAL LEASES

The present value of future minimum lease payments is reported as a liability in the balance sheet. Such payments fall due as outlined below.

GROUP			
At December 31	2003	2002	2001
Within one year	534	-	-
Later than one but within five years	1 413	-	-
Later than five years	-	-	-
	1 947	-	-

Future minimum lease payments fall due as outlined below.

GROUP			
At December 31	2003	2002	2001
Within one year	546	-	-
Later than one but within five years	1 512	-	-
Later than five years	-	-	-
	2 058	-	-

Variable fees included in operating expenses during the year amounts to kSEK 0 (- and -, respectively). Equipment with a total cost of kSEK 2 050 (- and -, respectively) was financed with leasing contracts during the year.

The capital lease contracts pertain to laboratory equipment with a carrying value of kSEK 1 785 (- and -, respectively).

The interest rate in the contracts is variable and linked to the Swedish general interest rate. Karo Bio has the right to extend the leasing period or acquire, direct or indirectly via another entity, the equipment at a predetermined price upon expiration of the contract.

NOTE 18 ACCRUED EXPENSES

	GROUP			PARENT COMPANY	
At December 31	2003	2002	2001	2003	2002
Accrued social security expenses	1 521	1 283	1 463	1 340	1 283
Accrued vacation	7 062	8 950	9 321	7 062	7 397
Other	10 955	8 107	11 133	6 700	7 415
	19 538	18 340	21 918	15 102	16 095

NOTE 19 CONTINGENT LIABILITIES

Between 1995 and 1997 the Swedish Industrial Development Fund provided partial financing amounting to MSEK 24 for Karo Bio's research regarding pharmaceutical compounds for the treatment of hypercholesterolemia. The amount received plus interest will be repaid through royalties on the revenues from the thyroid hormone projects until 2010. The amount reported as a contingent liability is the amount recorded as revenue plus accrued interest after deduction of royalties expensed.

NOTE 20 OPERATING LEASES

Leasing costs for the year amounted to kSEK 11 329 (12 544 and 11 866, respectively) for the Group and kSEK 9 611 (10 331) for the Parent Company.

Future minimum lease payments on non-cancelable lease contracts fall due as follows.

	GROUP			PARENT COMPANY		
At December 31	2003	2002	2001	2003	2002	
Within one year	10 198	10 164	10 634	7 753	8 257	
Later than one but within five years	297	7 805	10 752	1 809	6 333	
Later than five years	-	-	-	-	-	
	10 495	17 969	21 386	9 562	14 590	

Leasing contracts relate to laboratory and office facilities, laboratory equipment and automobiles.

NOTE 21 INTER-COMPANY PURCHASES AND SALES

During the year Karo Bio AB purchased services from the subsidiaries for kSEK 45 415 (54 645), while services sold to subsidiaries amounted to kSEK - (5 256). The Parent Company purchased equipment from subsidiaries for kSEK 1 120 (-).

NOTE 22 REMUNERATION TO AUDITORS

		GROUP			PARENT COMPANY		
	2003	2002	2001	2003	2002		
PricewaterhouseCoopers							
Auditing	881	626	413	614	475		
Other assignments	522	416	759	357	331		
	1 403	1 042	1 172	971	806		

NOTE 23 STOCK OPTION PROGRAMS

Karo Bio has introduced two stock option programs in accordance with decisions made at the annual shareholders' meeting in April 2001 and 2003, respectively. The programs are stock option programs and cover all permanent employees of Karo Bio AB and its subsidiaries.

The financial exposure from the stock option programs is hedged by warrants issued to a wholly-owned subsidiary, of which a specified portion is reserved to cover payroll taxes and other related costs, and are transferred to an external party under a separate agreement.

Program 2003

A maximum of 190 000 stock options, representing the same number of shares, can be issued under this program. 51 000 warrants are reserved to cover payroll taxes. Maximum allocation of stock options is 20 000 stock options to the president, maximum 5 000 stock options per person to executive management and key employees, and maximum 2 000 stock options per person to other employees. Stock options will be issued at no cost to employees.

Stock options will be issued, based on performance, in four series in May 2004, which expire in 2011. The stock options vest and become exercisable in one series per year over a four-year period until May 2008. Last date for exercise is in April 2011 for all series, provided continued employment. The exercise price is determined to SEK 33, 36, 39, and 44 for each series, respectively.

Program 2001

The program involves 340 000 stock options, which now represents 367 200 shares as a result of the rights issue of new shares in 2003 in accordance with the terms of the program. Of the 367 200 shares, 75 600 are reserved to cover payroll taxes. Maximum allocation of stock options represents 21 600 shares to the president, maximum 6 480 shares per person to executive management and key employees, and maximum 3 240 shares per person to other employees. Stock options vest annually over four years and are exercisable between May 31, 2002 and April 30, 2008, provided continued employment. Stock options were issued at no cost to employees. The stock options have an exercise price equal to

100 percent of the average stock price during a period near the issuance, which ranges between SEK 297 and 335 after adjustment for the 2003 new share issue referred to above.

Effect on financial statements

The effects on the Company's financial position from the stock option programs will be positive, as plan participants will pay monies to the Company to exercise options in accordance with the exercise price. Additional costs, consisting primarily of payroll taxes levied upon exercise, occurring as an effect of the program, will be covered by the additional warrants held by an external party. There will be no adverse effect on the Company's financial position from the program, provided that the percentage at which payroll taxes are levied does not change significantly during the remainder of the exercise period.

The Company follows applicable standards issued by the Council in accounting for stock-based compensation. Thus, the current accounting policy is to report exercise of warrants related to stock option programs in shareholders' equity, whereas the nominal value of issued shares will be credited to share capital upon exercise and exercise price less nominal value will be credited to the share premium reserve.

Increase in number of shares

Exercise of all options issued under the two plans will lead to an increase of the number of shares by 3.6 percent, including the warrants reserved to cover payroll taxes. Current possible maximum increase, considering forfeited options, is 3.1 percent. The issued warrants would not imply dilution of earnings per share in 2001-2003, as a conversion to shares would lead to a decrease in the reported loss per share.

Stock option programs in acquired companies

At the time of acquisition, the now wholly-owned subsidiary Karo Bio USA, Inc. sponsored stock option programs for its employees. In conjunction with the acquisition of Karo Bio USA, Inc., Karo Bio AB issued warrants to cover shares to be issued in the event of the exercise of stock options. The exercise price of the stock options outstanding under the Karo Bio USA, Inc. plans, convertible into one Karo Bio AB share, ranges from 0.48 to 1.43 US Dollars.

Allocation of stock options (number of shares)	2003	2002	2001
Outstanding at January 1	239 679	276 910	72 333
Allocated	-	2 375	245 547
Effect from new share issue	17 704	-	-
Exercised	-3 547	-26 586	-26 970
Forfeited	-18 265	-13 020	-14 000
Outstanding at December 31	235 571	239 679	276 910
Of which vested	143 935	64 875	11 941

In accordance with the terms of Program 2001, each stock option represents 1.08 shares after the rights issue 2003. Adjustment has been made to reflect the number of shares the options represents in the table above.

The analysis below regarding exercise of options relate only to options issued in conjunction with investment in group company, as no exercise regarding Program 2001 has taken place.

Exercise of options	2003	2002	2001
Average exercise price per share, SEK	6.59	6.24	6.08
Total exercise amount, kSEK	23	166	164

NOTE 24 FINANCIAL INSTRUMENTS AND RISKS AND SENSITIVITY ANALYSIS

Karo Bio, like any other company engaged in business, is exposed to various risks varying from time to time. The relevant risks to Karo Bio can be broken down into commersial risks and financial risks.

Karo Bio's financial policy determines allocation of responsibility for the finance operations, which financial risks the Company is willing to assume and guidelines for how such risks are to be reduced and managed. The policy, which is reviewed and approved annually by the Karo Bio board of directors, is developed to control and manage the following risks.

- Foreign currency risk
- Funding risk
- Liquidity risk
- · Interest rate risk
- · Credit risk in investments

Financial risk management is centralized in the Company and is the responsibility of the chief financial officer.

Foreign Currency Risk

Changes in foreign currency rates have an impact on Karo Bio's earnings and equity in different ways:

- Earnings are affected when revenues and expenses are denominated in different currencies - transaction risk
- Earnings are affected when assets and liabilities are denominated in different currencies - translation risk.
- Earnings are affected when the income statements of foreign subsidiaries are converted into Swedish Kronor translation risk.

 Shareholder's equity is affected when the balance sheets of foreign subsidiaries are converted into Swedish Kronor - translation risk.

Operational risks

Karo Bio is operating in an international industry. Most of the Company's revenues are denominated in US Dollars and approximately 65 percent of expenses are incurred in Swedish Kronor. The remainder of Karo Bio's expenses is denominated predominately in US Dollars, but also Euros, British Pounds, and Norwegian Kronor. This leads to a significant exposure to currency fluctuations, a combination of both translation and transaction risks. Karo Bio's reporting currency is Swedish Kronor.

The diagram indicates the effect on Karo Bio's earnings and operating result, if Swedish Kronor strengthen by 10 percent. Both translation and transaction risks have been considered. The total effect on the operating result would be MSEK 0.

Currency effect on (MSEK)				
Currency	Revenues	Operating result		
USD	-7	-2		
Other	-	2		
Total	-7	0		

Effect on consolidated revenues and operating result before hedging transactions if Swedish Kronor strengthen by 10 percent.

The Company's financial policy provides that the cash flow exposure shall be hedged. Currency hedging is accomplished primarily through currency forward contracts. Between 50 and 90 percent of forecasted cash flows for a twelve month period shall be hedged. In this respect, a certain level of assurance must exist in order to consider possible transactions and related cash flows. Contracted cash flows such as research funding received in accordance with research collaboration agreements, are hedged for the contracted period of up to 36 months. However, not more than 50 percent of contracted cash flows are hedged to take into consideration future expenses related to the cash receipts. The effect of the policy is that the impact from currency fluctuation is delayed.

At year-end, the total nominal value of existing currency forward contracts amounted to MSEK 6 (19), with an average remaining life of three (eight) months. Unrealized gains on these contracts amounted to MSEK 2 (3) at year-end. Currency forward contracts that matured in 2003 affected the operating result with MSEK 2 (-2).

Translation of financial statements of foreign subsidiaries

The consolidated financial statements are affected by currency fluctuations when the income statements and balance sheets of foreign subsidiaries are translated into Swedish Kronor to be included in the consolidated financial statements of Karo Bio. The Company's policy is not to hedge such exposure.

Shareholders' equity was charged with MSEK 5 (4) in 2003 from such currency translation differences.

Financial risks

Currency risks in financial flows related to liabilities and investments is reduced by making investments in Swedish Kronor, unless an investment in a foreign currency would serve as a hedge of an existing exposure.

Karo Bio's liabilities that are classified as non-operating for financial reporting purposes consist of an inter-company payable from the Parent Company to Karo Bio USA, Inc. and a payable to Duke University. The inter-company payable is not hedged. The payable to Duke University is considered by including the payments in the forecasted operating cash flow to be hedged. Consequently, the currency translation of both these payables leads to currency gains in the financial net amounting to MSEK 6 (6) in 2003.

Funding risk

The risk that the Company will not have access to necessary financing at all times is defined as funding risk. From time to time, the Company has raised additional funds in the capital market to secure sufficient funds for the operations and stability of the Company. A recurring review of the

funding needs is carried out in combination with an assessment of the capital market developments to evaluate financing strategies.

Liquidity risk

Liquidity risk refers to the risk that the Company will not have sufficient monetary assets readily available to pay current foreseen or unforeseen expenditures. The risk is associated with the supply and maturity of short-term investments and the risk that there is no market for a specific instrument that the Company needs to sell. Liquidity risk is managed by structuring the maturities of investments based on cash flow forecasts and also limiting investments in bonds with low liquidity on the second-hand market.

Interest rate risk

Interest rate risk is the risk that a change in interest rates will cause a negative impact on the value of interest-bearing assets. In accordance with the policy, investments are made with variable terms and maturities. The immediate impact on short-term investments if the interest rate would decrease by one percentage is 1.2 percent or MSEK 2.

Credit risk in investments

Credit risk refers to the risk that Karo Bio will not receive payment for an investment. The credit risk is divided into issuer's risk and counterpart's risk.

Issuer's risk is the risk that the securities, which Karo Bio has in its possession, will lose their value because the issuer cannot meet its commitments in the form of interest payments and payments on the due date.

Counterpart's risk is the risk that the party that Karo Bio buys investments from or sells investments to cannot provide securities or make payment in accordance with what has been agreed.

The Policy manages credit risk by regulating which parties Karo Bio can do business with and what credit ratings are required for investments. There is no material concentration of credit risks.

Market value of assets and liabilities

The market value for short-term investments amounts to MSEK 176 while book value amounts to MSEK 174. Market value for currency forward contracts amounted to MSEK 2 with no book value. For other assets and liabilities corresponds book value to market value.

NOTE 25 SEGMENT INFORMATION

Revenues, assets and investments in equipment and intangible assets are distributed among secondary segments as follows.

		GROUP		
	2003	2002	2001	
Revenues				
Europe	-	-	-	
NAFTA	85 081	177 746	136 853	
	85 081	177 746	136 853	
Assets				
Europe	225 187	340 301	676 920	
NAFTA	3 840	10 121	11 406	
	229 027	350 422	688 326	
Investments in equipment and intangible assets				
Europe	4 753	4 526	20 601	
NAFTA	431	779	3 649	
	5 184	5 305	24 250	

The income statements and balance sheets will be presented for the annual general meeting on April 21, 2004 for adoption.

HUDDINGE FEBRUARY 5, 2004

Per-Olof Mårtensson

Chairman

Dana M. Fowlkes Johan Claesson Lars Ingelmark

> Ulla Litzén Leon E. Rosenberg

Bo Carlsson Fredrick de Maré

> Björn Nilsson President

Our Audit Report was issued February 6, 2004.

PricewaterhouseCoopers AB

Claes Dahlén

Authorized Public Accountant

Audit Report

To the general meeting of the shareholders of Karo Bio AB (publ.)

We have audited the annual accounts, the consolidated accounts, the accounting records and the administration of the board of directors and the managing director of Karo Bio AB (publ.) for the year 2003. These accounts and the administration of the company are the responsibility of the board of directors and the managing director. Our responsibility is to express an opinion on the annual accounts, the consolidated accounts and the administration based on our audit.

We conducted our audit in accordance with generally accepted auditing standards in Sweden. Those standards require that we plan and perform the audit to obtain reasonable assurance that the annual accounts and the consolidated accounts are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the accounts. An audit also includes assessing the accounting principles used and their application by the board of directors and the managing director, as well as evaluating the overall presentation of information in the annual accounts and the consolidated accounts. As a basis for our opinion concerning discharge from liability, we examined significant decisions, actions taken and circumstances of the company in order to be able to determine the liability, if any, to the company of any board member or the managing

director. We also examined whether any board member or the managing director has, in any other way, acted in contravention of the Companies Act, the Annual Accounts Act or the Articles of Association. We believe that our audit provides a reasonable basis for our opinion set out below.

The annual accounts and the consolidated accounts have been prepared in accordance with the Annual Accounts Act and, thereby, give a true and fair view of the company's and group's financial position and results of operations in accordance with generally accepted accounting principles in Sweden.

We recommend to the general meeting of shareholders that the income statement and balance sheet for the parent company and group be adopted, that the loss for the parent company be dealt with in accordance with the proposal in the administration report and that the board of directors and the managing director be discharged from liability for the financial year.

Stockholm February 6, 2004

PricewaterhouseCoopers AB

Claes Dahlén

Authorized Public Accountant

Glossary

AGONIST A compound that has a stimulating effect.

ALDOSTERONE Hormone that regulates salt balance.

ANDROGEN Male sex hormone.

ANTAGONIST A compound that has inhibiting/blocking effect.

ARTHRITIS Inflammation of joints.

ATHEROSCLEROSIS Atherosclerosis originates from deposits of fatty substances such as cholesterol

and calcium. The atherosclerotic process may begin early in life and over time lead to a build-up known as plaque, which hardens as people get older. The consequences are restricted blood flow, especially in arteries and areas where the blood vessels branch. There is also increased risk of blood clot formation. When this occurs in the heart, the result is a heart attack and, in the brain, a stroke. Blood flow in the extremities may also be restricted, which causes pain

during exercise.

BIOKEY® MOLECULAR PROBE

A biopolymer that binds to a biologically relevant site on a target, identified

through a proprietary technology, and is useful in a high throughput

screening assay or a target validation protocol.

BREAST CANCER Cancer of the breast tissues. Growth of most forms of breast cancer is

dependent upon on the female sex hormone, estrogen. An estrogen antagonist can therefore be used in the treatment of breast cancer to limit

the growth of the tumor.

CD Candidate drug.

CARDIAC ARRHYTHMIA Any deviation from the normal rhythm (sinus rhythm) of the heart.

CARDIOVASCULAR DISEASE Examples of diseases that fall within this category are congestive heart

failure and cardiac arrhythmia. Elevated lipids in the blood, hyper cholesterolemia, is a risk factor associated with cardiovascular diseases.

CELLULAR BRAILLE™ TECHNOLOGY For further details, see page 23.

CLINICAL STUDY

Testing and evaluation of pharmaceuticals in humans.

COLLAGEN Structural protein that builds up tissues, e.g. skin.

COMBINATORIAL CHEMISTRY A method for generating large numbers of new substances rapidly by

combining a limited number of molecular building blocks in a variety of ways.

CRYSTAL Definite and regular shape taken naturally by the molecules of certain

substances or proteins. An important step in the structure determination of

proteins by X-ray, crystallography.

DE NOVO DRUG DESIGN

The innovative phase of the process of finding new drugs.

DYSLIPIDEMIA Imbalance in lipid/cholesterol metabolism.

ENZYME Specialized proteins produced by living cells. They enable biochemical

reactions at body temperature and at body pH. Enzymes act as catalysts

without being destroyed or altered by the chemical reaction.

ESTROGEN Female sex hormone.

GENOMICS Knowledge about gene structure and function.

The hormone that is the natural ligand to the glucocorticoid receptor GLUCOCORTICOID/ADRENOCORTICAL

hormone and is produced in the adrenal cortex, and thus also referred to as adrenocortical hormone. The hormone regulates the body's use of carbohydrates, fat and protein and is a normal response to stress.

High Density Lipoprotein particles (the "good cholesterol") HDL

HORMONE Compound secreted from the body's glands and transported through the

blood to the organ in which it has its effects.

HORMONE REPLACEMENT THERAPY (HRT) Replacement of a hormone that is no longer produced naturally by the

Elevated levels of blood lipids, cholesterol. HYPERCHOLESTEROLEMIA (HIGH CHOLESTEROL)

HYPERTONIA High blood pressure.

IND Investigational New Drug Application. An application to the FDA or

corresponding authority for permission to start testing a pharmaceutical in

human beings.

Low Density Lipoprotein particles (the "bad cholesterol"). LDL

A compound that has the desired activity in vitro and in relevant animal LEAD COMPOUND

models.

LIGAND A substance, for example, a hormone or compound - that binds with a

receptor protein.

MOLECULAR BRAILLE® TECHNOLOGY A proprietary technology utilizing multiple biopolymer probes to report

changes in the conformation of a target as a result of the binding of a

compound.

NCE New chemical entity.

New drug application. NDA

Receptors inside a cell that bind to ligands (often hormones) and regulate NUCLEAR RECEPTORS

gene transcription.

NUCLEOTIDE Basic component in DNA.

OPHTHALMOLOGY Knowledge about eye function and diseases.

OSTEOPOROSIS Loss of bone tissue, resulting in bones that are brittle and more vulnerable

to fracture.

Bacterial virus. PHAGE

PRE-CLINICAL DEVELOPMENT These tests are required to gain the permission of the authorities to test

the compounds on human beings.

A protein on the cell surface or inside the cell that recognizes and binds RECEPTOR

to ligands, for example, steroid hormones.

A drug that has similar effects as the natural hormone in certain tissues, but a RECEPTOR MODULATOR

blocking activity in other tissues. See SERM.

SCREENING Automated or semi-automated testing of a large number of compounds

in in vitro assays such as ligand-binding assays or cell-based assays.

SERM Selective Estrogen Receptor Modulator. A drug that acts like estrogen on some

tissues, but blocks the effect of estrogen on other tissues. Tamoxifen and

Raloxifene are SERMs.

SKIN ATROPHY Thinning of the skin.

STAD Selective Thyroid hormone Agonist for treatment of Dyslipidemia.

STRUCTURE-BASED DRUG DESIGNDesign of novel compounds based on the 3D structure of, for example,

a receptor protein.

SYNTHESIS Chemical production of a substance.

THERAPY Disease treatment method.

THYROID HORMONE An iodine-containing hormone synthesized and secreted by the thyroid

gland, which is essential for normal metabolic processes and mental and

physical development.

TISSUE A collection of cells specialized to perform a particular function. The

cells may be of the same type or of different types. Aggregates of tissue

constitute organs.

TISSUE PROFILINGTM

Systematic testing of compounds for their effect in cell assays derived

from different organs of relevance to the indication in question. Tissue profiling facilitates the identification of compounds with tissue selective activity and minimizes the need for animal studies at this stage of drug

development.

TRANSCRIPTION The process where DNA is transcribed into another nucleic acid (RNA).

TYPE 2 DIABETES A form of diabetes, which develops in adult and often obese patients.

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