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GENPHARM INTERNATIONAL

INTRODUCTION

As Jonathan MacQuitty, CEO of GenPharm International, Inc. (GenPharm), drove to an important Board of Directors meeting on April 28, 1997, he reflected on the changes and challenges he and GenPharm had been through over the past nine years.

MacQuitty had joined GenPharm in December 1988 when the company was in the process of forming from the merger of two small biotechnology firms – Genfarm B.V. of the Netherlands and Chimera Biotech, Inc. of San Francisco, California. The newly formed GenPharm quickly became a pioneer in the field of transgenic animal technology. In 1991, the company's European operations produced the world's first transgenic dairy calf, "Herman" the bull, and the company's U.S. operations demonstrated a key step in the development of the world's first transgenic mice generating human sequence antibodies (HuMAbs) to various antigens.

Between 1991 and 1994, the company continued to pursue cutting edge research in the field of transgenic animal technology, established collaboration agreements with several leading corporations, and raised millions of dollars. The future of GenPharm looked bright until February 1994. At that time, GenPharm was preparing to make an initial public offering (IPO) of its shares when a competitor filed a lawsuit alleging that GenPharm had misappropriated its trade secrets. After receiving the complaint, GenPharm's Board decided not to proceed with the planned IPO. Following the withdrawal of its IPO, GenPharm was forced to decrease the size and modify the nature of its business in 1995 and 1996. Most notably, in April 1995, GenPharm spun-off its European subsidiary, GenePharming Europe B.V., and in July 1995, GenPharm sold its animal model business.

In March 1997, the legal situation was resolved with a settlement and cross-license agreement. As part of this agreement, GenPharm was to receive up to $37.5 million in settlement payments. Around the same time, GenPharm's Board of Directors had begun to explore the possibility of

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finding a corporate partner that would help provide the company with the financial wherewithal to continue with the development and commercialization of its human monoclonal antibody products. On April 28, 1997, the Board received an offer from a publicly traded biotechnology firm, Medarex, Inc., to acquire GenPharm for up to $65 million. MacQuitty knew this was an attractive offer, but as he pulled into the GenPharm parking lot, he was still uncertain how he was going to vote.

INDUSTRY OVERVIEW

Transgenic Animal Technology[1]

Transgenic animals are animals whose genetic structure has been altered by introducing or deleting DNA. Transgenic animal technology originated with genetic engineering techniques that were developed in the early 1970s. Initially, these techniques were applied to simple bacterial organisms for the production of pharmaceutical products, such as human insulin. As more advanced techniques were developed, more complex organisms such as yeast and plants were genetically engineered. By the 1980s, scientists began to apply genetic engineering techniques to animals and created transgenic animals. Although transgenic animals looked and acted like others of their species, they could be engineered to produce human proteins in their milk or human antibodies in their blood.

These transgenic animals were developed through the application of genetic engineering and embryo manipulation techniques. The process involved the *in vitro* introduction – through microinjection or other techniques – of a genetically engineered segment of DNA (the "transgene") into the genetic makeup ("genome") of a fertilized egg or early stage embryo.[2] Following this process, the fertilized egg or embryo was placed back into an adult female for gestation and birth. (**Exhibit 1**) Only a portion of the resulting animals were transgenic. Once established in the reproductive cells of first generation transgenic animals, the transgene could then be transmitted like other genetic traits to future generations through traditional breeding with either non-transgenic or other transgenic animals.

Transgenic Animal Technology and Therapeutic Products

Proteins as Therapeutic Products

Conventional chemical drugs generally functioned by binding to a disease-causing protein, thereby altering, eliminating, or decreasing its activity. While protein drugs could be used to mimic the function of certain chemical drugs, the greatest use of therapeutic proteins was in supplementing the human body when a specific protein of significant physiological and clinical importance was made in less than the desired amount. Before the days of recombinant DNA manipulations, the production of most of the clinically important proteins in sufficient quantities from natural sources was hardly possible. A technological upsurge in DNA manipulation as well as protein production methods facilitated the synthesis of various therapeutic proteins at a scale that could meet the therapeutic needs of patients worldwide.

In the late 1980s, several companies became involved in the production of proteins from transgenic animals. Transgenic sheep, pig, cows, mice, and goats started being "pharmed" to

[1]GenPharm International Prospectus, February 12, 1992.
[2]Throughout the case, refer to Exhibit 22 for a glossary of technical terms.

produce various proteins in their milk. These transgenic animals provided an alternative and potentially more economical source of production of protein therapeutics as compared to the traditional cell culture and fermentation systems, particularly for those proteins that required larger doses and chronic administration.

Monoclonal Antibodies as Therapeutic Products

Monoclonal antibodies were a subset of the protein therapeutic area. A monoclonal is an exact copy of a single antibody that binds to a specific antigen – a molecule on a bacterium, virus, or cancer cell. It then triggers a cascade of events in the immune system that destroys or neutralizes the interloper. At the beginning of the modern era of biotechnology, monoclonal antibodies as a group were expected to revolutionize the protein therapeutic field. However, this did not materialize, primarily due to the human anti-mouse antibody (HAMA) response to mouse monoclonals. That is, the antibodies which were derived from mice provoked an immune response in humans that made them unusable as pharmaceuticals.

Therefore, a race to rectify this early defect started in the 1980s, creating ferocious competition among biotechnology startups in the field. A number of researchers responded by creating antibodies that were mostly human, but still partly rodent. Ideally, a transgenic mouse bearing genes for an entire human antibody would produce a fully human antibody. The antibody-making cell could then be isolated to generate an unlimited supply of such monoclonal antibodies.

Species Selection

The selection of a particular species for development as a transgenic animal depended on the intended product. If the transgenic animal was to be used to produce proteins for nutritional purposes, important selection criteria included the scale of production required and the ability to produce the protein in a form that was already familiar as a food product. Dairy cows were well suited for cost-effective production of relatively large quantities of nutritional proteins in their milk. Mice were well suited for the generation of human monoclonal antibodies because well-established techniques for the production of monoclonal antibodies from mice existed.

Government Regulations

Proteins and antibodies being developed for use as human therapeutic products required approval by government agencies in the countries in which the products would be sold and used. Human therapeutic products, in general, were subject to lengthy and rigorous preclinical testing and clinical trials and other extensive, costly, and time-consuming procedures that were mandated by the Food and Drug Administration (FDA) in the United States and by other authorities such as the European Medicines Evaluation Agency (EMEA) in Europe. The process of obtaining the appropriate approvals and the subsequent compliance with regulatory statutes and regulations were time-consuming and required the expenditure of substantial resources by companies trying to develop new products.

GENPHARM INTERNATIONAL: A GLOBAL STARTUP

Antecedents

GenPharm International, Inc. (GenPharm) was founded in December 1988 and quickly became a leader in the research and development of transgenic animal technology for human health care

products. GenPharm was formed as a result of the merging of two small biotechnology firms – Genfarm B.V. of the Netherlands and Chimera Biotech, Inc. of San Francisco, California.

Genfarm B.V.

In 1988, Dr. Jonathan MacQuitty (**Exhibit 2**) was working as the vice president of commercial development at the biotechnology firm Genencor, Inc.[3] That same year, one of MacQuitty's former colleagues from Genentech, Professor Herman de Boer of the University of Leiden in the Netherlands (**Exhibit 2**), contacted him with an idea. He wanted to form a company to research the production of human proteins in transgenic dairy cattle, but he needed funding. Under MacQuitty's direction, Genencor agreed to put in a seed investment of $100,000 in a newly established company called Genfarm BV. Subsequent to the company's formation, Genencor increased its investment to $300,000. This additional funding was used to write a business plan and to establish a legal relationship with Leiden University, enabling de Boer to work at the university and transfer the intellectual property rights from the research to the new company. Shortly thereafter, the company was granted a subsidy by the Ministry of Economic Affairs of the Netherlands for the development of transgenic animal techniques.

Chimera Biotech, Inc.[4]

Entirely independent of Genfarm B.V., in 1988, a group of venture capitalists in Silicon Valley started a company called Chimera, which focused on transgenic rodents. The venture capitalists, who included Sam Colella from Institutional Venture Partners, Ned Olivier of Fairfield Ventures, and Kevin Kinsella from Avalon Ventures, recruited a scientific advisory board and invested $300,000 of seed money in Chimera. Their idea was to develop transgenic mice and other animals to help discover and test new therapeutics.

To Merge or Not?

In about mid-1988, MacQuitty met with Colella to discuss options for spinning some operations out of Genencor. At the end of their conversation, Colella coincidentally asked MacQuitty if Genencor had any operations in the transgenic animal area. As MacQuitty recalled:

> We had just started Genfarm B.V. and Sam and the others had just started Chimera, so we started talking… His project had no management team and no detailed project ideas. Our project had a management team and ideas but no money. It seemed like these two companies might be a good fit. After talking for several hours, we thought we should explore the possibility of combining these two entities.

Both sides immediately initiated discussions about whether or not to merge Genfarm B.V. and Chimera, and they eventually developed a proposal. The plan was to merge the companies on a one-to-one basis and form a holding company, GenPharm International, Inc., which would own both the U.S. and European companies as subsidiaries. MacQuitty explained the reason for merging on a one-to-one basis, "It's always better in a merger if both sides feel they have equal power. This was the case with Genencor. So it was not difficult to end up at a 50-50 split in the

[3] Jonathan MacQuitty helped launch Genencor, a joint venture between Genentech and Corning Glass Works that focused on industrial enzymes.

[4] A chimera is a mythical fire-breathing female monster with a lion's head, a goat's body, and a snake's tail.

case of GenPharm." The one condition of the merger was that MacQuitty would have to leave Genencor and become president and CEO of the new company.

While the fit between Genfarm and Chimera seemed obvious, the principals on both sides could not easily reach a decision. As MacQuitty recalled, "We spent a long time debating whether or not it made sense to merge the entities. There were lots of advantages as well as disadvantages to doing so."

Advantages of Being a Global Startup

Historically, biotechnology companies had chosen to globalize their operations during the development or revenue stage of their evolution. (**Exhibit 3**) In the late 1980s, however, there was a new group of companies that was choosing to go global at the research stage. MacQuitty felt that companies were doing so in order to benefit from several potential advantages. Some of these advantages included:

1. Funding: At the time, several European governments were starting to give grants or loans to young technology companies. Genfarm B.V., for example, later received a $1.7 million grant from the Netherlands Foreign Investment Agency through its Technical Development Credit Scheme (TDCS), through which it awarded grants and loans to young innovative companies in order to bridge the gap between research and commercialization.[5] MacQuitty explained the financial benefits of these "loans" as follows:

> Most of the loans that the Dutch government was awarding (and later also the German government) were soft loans. There was no collateral associated with them and you did not have to pay them back until you earned product revenue on the products developed with the loan. So from a biotech company's perspective that kind of money was like a grant. It had the same financial impact a grant does, and it was not on your balance sheet. So, it was very, very attractive.

2. Local collaborations: Being a global company from the start also opened the door for young biotechnology companies to enter into collaboration agreements with customers in both the U.S. and Europe. As MacQuitty explained:

> Being a global startup enabled you to do collaborative research work with customers that felt you were in their region. For instance, you could be seen as an American company by an American company and as a European company by a European company… It was actually quite difficult as a European company to attract an American company as a collaborator and vice versa. They were worried about the distance and all of the other issues that come with doing business thousands of miles away.

3. Access to global research and intellectual property: MacQuitty also felt that having global operations provided young companies with access to global research. He explained:

> The research business was a global business. As a European company, you had a much better chance of getting licensing agreements with European governments and universities. A lot of the licensing people were concerned with local and

[5] GenPharm International, Inc. press release, March 24, 1994.

> regional economic development. If you didn't have a presence in the region, they were less likely to grant you licenses.

4. Lower costs: Finally, from a U.S. company's perspective, it was less costly to do business in Europe for two main reasons. First, European salaries were lower. However, according to MacQuitty, the benefit of this was limited: "You pay less, but for various reasons, the output is less. I don't think you get quite the same bang for the buck." Second, from a venture capitalist's perspective, it was less expensive to build a team in Europe because people had lower expectations in terms of ownership. As MacQuitty explained:

> If you looked at the post first-round money valuations in the U.S. versus in Europe, the U.S. deals were much higher. Another way to look at it is how much the venture capitalists would own at the end of the first round, relative to the entrepreneurs. With a European company, the venture capitalists would own a much larger percentage of the company than in the U.S. The entrepreneurs just didn't expect as much, though there was often more work required from the VCs.

Disadvantages of Being a Global Startup

While there were clearly advantages to being a global startup, the Genfarm and Chimera principals also felt that there were clear disadvantages to starting out globally and therefore, to combining these two separate entities. Some of these disadvantages included:

1. Coordination: Coordinating efforts in two very different locations was going to be very difficult not only because of distance but also because of cultural differences. As MacQuitty explained:

> I remember one of the investors told me that if we were to combine the two entities, he thought I was going to find it hard to manage them. I thought, "Well, I am responsible at Genencor for managing our European operations, so I think I know how difficult it will be." He smiled and said, "Yes, but it will still be difficult, Mr. MacQuitty." In Europe, they definitely have different objectives and different processes for getting work done.

2. Infrastructure: MacQuitty also felt that it was more difficult to do business in Europe because of the lack of business infrastructure, particularly in the legal and accounting areas. As he explained:

> If you walked into a law firm in Silicon Valley, you can start a company. Within a matter of minutes, the partners could walk you through all the necessary steps – incorporating the company, holding a shareholders' meeting, etc. But the equivalent process in a European country might take months. They were just not used to setting up small, high-tech companies.

GenPharm International is Born

After debating the advantages and disadvantages of going global, Genencor's Board eventually voted in favor of the proposed merger, and the new entity, GenPharm International, Inc. acquired Genfarm B.V. and Chimera Biotech in April 1989. As a result, GenPharm International became a holding company that owned the two separate entities, GenPharm U.S., Inc. (formerly Chimera

Biotech, Inc.) and GenPharm Europe B.V. (formerly Genfarm B.V.). (**Exhibit 4**) MacQuitty was named the new president and CEO, and Sam Colella from Institutional Venture Partners became the chairman of the board. (**Exhibit 2**) According to a press release issued by GenPharm International, Inc.:

> Two biotechnology firms, Chimera Biotech, Inc. and Genfarm B.V. today announced the formation of a new international biotechnology company, GenPharm International, Inc… GenPharm is commercializing transgenic animal technology for nutritional, veterinary, and pharmaceutical applications. Transgenic animal technology enables the introduction of novel genetic information into animals and their offspring. This breakthrough technology will allow unique and commercially important traits to be introduced and improved in domestic and laboratory animals.

In June 1990, for tax purposes, GenPharm U.S. was folded into GenPharm International, Inc. GenPharm Europe B.V. remained a wholly-owned subsidiary of GenPharm International, Inc., but its name was changed to GenePharming Europe B.V.

GETTING STARTED

Once the merger was finalized, MacQuitty immediately set out to establish a foundation upon which to build and grow GenPharm International, Inc. He focused on delineating the operations between the Europe and the U.S., formulating a business model, raising money, and establishing human resource norms around compensation.

Division of Labor

From the start, MacQuitty wanted to keep the U.S. and European operations separate. As he explained, "Because of the potential problems with coordination, we did not want to have scientists working on the same project at different sites." Therefore, GenPharm decided to exclusively pursue research on cattle in Europe and on mice and rodents in the United States. More specifically, the company would focus its efforts on three areas, which had a combined potential market value of $7.45 billion (**Exhibit 5**):

1. Production of human milk protein in cattle
2. Generation of human monoclonal antibodies in mice
3. Production of transgenic rodent models

European Operations

In Europe, GenPharm would pursue the production of pharmaceutical or nutritional proteins in the milk of dairy cattle. As MacQuitty explained:

> It made sense to focus on cattle in Holland because cows were a huge part of the Dutch economy. There were millions of dairy cows in Holland… it was like sheep in New Zealand. Since milk was a commodity, the Dutch government wanted to think of value-added products to make using the cows. When we went to them and said, why don't we develop cows that make pharmaceutical products, they thought it was a brilliant idea. So the Ministry of Agriculture sponsored our work on one of its farms.

U.S. Operations

On the U.S. side, GenPharm would focus on developing transgenic mice that could generate human monoclonal antibodies for therapeutic and diagnostic purposes, as well as developing transgenic mice and rats that could be used as research models for the discovery and testing of new drugs. As Sam Colella explained:

> In the U.S., we were looking for the 'killer app,' which was the human monoclonal antibody. Prior to this time, there was great hope for antibodies but they had not taken off. This was because people had humanized mouse antibodies, but humans still had immune reactions to these things… The ultimate goal was to create a fully human monoclonal antibody so that people wouldn't have an allergic reaction.

Business Model

MacQuitty not only had to divide operations between the U.S. and Europe, he also had to develop a business model for GenPharm overall. The company's therapeutic product development programs were clearly at an early stage, and as was typical for biotechnology companies, it would be a number of years, if ever, before GenPharm would recognize any revenues from product sales or royalties. Therefore, for the first phase of the company's development, GenPharm's business model was to fund its operations from four different sources:

1. Collaboration Agreements: GenPharm's strategy for research, development, and commercialization was to rely in part upon collaborative partners. Through collaboration agreements, GenPharm would establish long-term partnerships with various corporations and institutions. As Colella explained, the types of partnerships that the company would establish in Europe and in the U.S. would differ:

> In the U.S., we were primarily targeting pharmaceutical companies and the large biotech companies in order to jointly develop and commercialize therapeutics. In Europe, we were actually looking at food companies or those companies that produced infant formula and that would be interested in the human proteins we were trying to produce in cattle.

According to MacQuitty, under these collaboration agreements GenPharm and its partners would lay out a plan for jointly developing a product or set of products:

> It was important for us to establish collaboration agreements, so we could work with corporate partners to develop new products. "Products" could be specific drugs or sets of drugs for particular indications. These agreements could be structured in many different ways, but they generally consisted of three parts. First, they specified what research would be performed. Typically, the corporate partner would pay GenPharm support fees in exchange for the initial research and development. Second, the agreements would specify milestones throughout the research and clinical phases. Generally, GenPharm would receive additional payments if these milestones were reached. Finally, the agreements would specify which party would have the rights to market the final product(s) and how

> the proceeds would be allocated. Whatever way the marketing rights were divided up, GenPharm would usually get a royalty payment.

MacQuitty also explained that collaboration agreements were very common in the biotechnology field and served as an important source of income for small biotech companies:

> Every biotech company out there was doing this type of collaborative agreement. The trick was you wanted to start collaborations as soon as possible because they served as a source of non-dilutive dollars for small companies. As a young company, there were also a number of variables you wanted to get… You wanted to get some of the money up-front. You wanted to make sure that the royalties were large. And finally, you wanted to make certain that you retained some rights to market the product, so you could eventually build up a sales and marketing infrastructure.

2. Grants: GenPharm's second source of revenue would be from government grants, which were also a source of non-dilutive dollars. In both the U.S. and Europe, there were several government-sponsored grant programs that GenPharm set out to pursue early on.

3. Equity Investments: Third, it was important for GenPharm to continue to raise equity financing to fund its operations. The revenues from collaborative agreements and grants would not provide the company with sufficient capital to aggressively pursue its research.

4. Sales of Transgenic Mouse Models: Finally, GenPharm planned to generate immediate revenues from the sale of transgenic mouse models to third parties for use in the discovery and testing of new drugs.

Financing

Given the importance of raising additional capital, MacQuitty immediately set out to fund the company's operations through additional equity investments. Working with GenPharm's original investors, MacQuitty presented the company's business plan to several venture capital firms on Sand Hill Road. On August 4, 1989, the company announced that it had closed a Series C venture capital financing of over $6 million with investments from Institutional Venture Partners; Fairfield Ventures; Delphi BioVentures; Kleiner, Perkins, Caufield & Byers; and Merrill Pickard Anderson & Eyre. (**Exhibit 6**)

Human Resources

In addition to financing, MacQuitty had to establish norms across the organization with respect to salaries and stock options. At the time GenPharm International was formed, scientists in Europe were paid approximately 20 to 25 percent less than scientists in the U.S., so MacQuitty had to decide whether the company should pay researchers in both locations the same salary. He also needed to decide if they should receive the same stock options. As he explained:

> We debated these issues for a long time. Eventually, we decided to pay different salaries but grant identical stock options. At first, this caused some discussion in the organization because we were paying people at the same level different salaries. We countered this by saying that that the costs of living were different

> and that we were paying prevailing market rates in each location. We also countered this by granting stock options equitably across the company at each level.

Even though GenPharm decided to grant stock options equitably, the company still had to customize the stock option program in each location. As MacQuitty explained:

> In Holland, you got taxed on a stock option when it was granted, but there was no capital gain if you bought a stock and sold it subsequently. So in Holland, we did reverse vesting stock programs.[6] In the U.S., on the other hand, there was no tax on the option, but there was a capital gain if you purchased and sold the stock. So in the U.S., we had to issue the stock options in exactly the opposite way as we did in Holland.

A Bumpy Start

With a plan in place and funding well secured, MacQuitty and the GenPharm team set out to execute against their strategy. However, it was not completely smooth sailing at first.

Protests in Holland

After GenPharm initiated operations in the Netherlands, the company met major resistance from several interest groups. As MacQuitty recounted:

> You can imagine… We were engineering cattle in Holland, the country probably most sensitive to genetic engineering other than Germany in all of Europe. The animal rights groups put posters on all of the bus stops that showed a cow with women's breasts on it that read, "Can we allow GenPharm to do this?" We caused so much controversy that we were debated in the Dutch Parliament on several occasions, and a Royal Commission investigated the company.

In response, MacQuitty explained that GenPharm provided sound arguments in favor of the company's work:

> We brought in different groups to study and debate the issues surrounding our research. We had ethical experts debate the topic, but our best advocates were actually the patients we were trying to help. As several explained in public debates and on national television, their lives might depend on the products that GenPharm was hoping to make.

Eventually, the Royal Commission voted in favor of allowing GenPharm to proceed with its work in the Netherlands. The company, however, knew it was important to maintain strong public relations even after the hype subsided. As MacQuitty explained, "We were worried that the Ministry of Agriculture might just lose heart at some point in time. We continued to bring in behavioral experts to observe the cattle and we made sure we treated them like royalty. In the back of our minds, however, we knew there was always a chance that things could change."

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[6] In a reverse vesting stock option program, the company allows the individual to buy a set number of shares, for example, one thousand shares at one cent. Over time, the company's ability to buy back those shares at one cent decreases. After the vesting period, generally four years, the individual owns the one thousand shares outright.

Cultural Differences

In addition to experiencing difficulties with the various interest groups in the Netherlands, MacQuitty also found that the cultural differences were in fact greater and more challenging to manage than he expected. As he explained:

> In Holland, they have different objectives in mind and the processes by which they do things are different. The Dutch are very direct people. Certainly in England, where I am from, one would never say the sorts of things they say to people in meetings. Given this, I found it extremely difficult to interpret the verbal and non-verbal messages during meetings.

While MacQuitty began to develop a facility in dealing with the cultural differences, he also felt it was important to get a group of local advisors:

> Our first five investors were all from California… thousands of miles away from Holland with little understanding of the culture. So less than a year after we had received our Series C round of financing in July 1989, I went to the board and told them that we were going to raise another round. We didn't need the money, but we did need local advisors that understood the culture. I wanted these advisors also to be investors so their interests would be aligned with those of us that already had equity in the company.

By July 1990, GenPharm had raised an additional $4.1 million from a group of European investors, including Abingworth Management (UK); Atlas Ventures (the Netherlands); Charterhouse Venture Fund (UK); and Euroventures (the Netherlands). (**Exhibit 6**)

RAPID PROGRESS: 1989 - 1992

Between 1989 and 1992, GenPharm made significant progress in both the U.S. and Europe. As GenPharm made breakthroughs in its research, it enabled the company to establish new business relationships and secure additional funding.

Research Developments

GenPharm U.S.

- **Human Monoclonal Antibodies:** In the U.S., GenPharm was striving to develop proprietary transgenic mice designed to generate human monoclonal antibodies. On December 17, 1991, GenPharm made a major breakthrough when the company announced it had generated the world's first transgenic mice containing sequences of functional, human immunoglobulin (Ig) genes that correctly recombined in transgenic mice to provide a broad range of antibodies. (**Exhibit 8**) In a company press release, Dr. Robert Kay, GenPharm's vice president for United States research and development, noted what a significant accomplishment this was: "This is the first time antibody diversity has been generated in a mouse that is similar to diversity in humans.

Mice expressing a human antibody repertoire will be tremendously important as a source of therapeutic antibodies."[7]

While this was a major breakthrough, GenPharm was still not certain that the mouse development program could be completed. The company believed, however, that if it succeeded in completing the development of these mice, it could, through existing antibody techniques, use the offspring of the mice to generate a wide variety of human monoclonal antibodies. (**Exhibit 9**)

- **Rodent Models:** In addition to human monoclonal antibodies, GenPharm was also developing proprietary transgenic mice and rats for use as models for toxicology, immunology and other medical research and drug discovery applications. In 1991, the company commenced shipment of two transgenic mouse models for toxicology and immunology and began breeding two additional mouse models to obtain commercial quantities. (**Exhibits 8** and **9**) GenPharm believed that its transgenic animal models would provide pharmaceutical companies and medical researchers with more reliable test results in a shorter period of time, thereby accelerating drug development.

GenePharming B.V.

In Europe, GenPharm was working to develop proprietary genetic technologies designed to express human milk proteins in the milk of transgenic dairy cattle. Certain human milk proteins believed to have important nutritional and other properties were not present in infant formula, so GenPharm was trying to develop two such proteins – human lactoferrin and human lysozyme – to be commercialized for use in infant formula and other products under the names NuLactin and NuLysin.

In August 1991, GenPharm made a major breakthrough when the world's first transgenic dairy calf, "Herman" the bull, was born. (**Exhibit 8**) "Herman" was the world's first calf to carry a human gene, in this case, for the production of human lactoferrin (hLF) in cow milk. "Herman" was developed through a collaboration between GenPharm's European operations and the Research Institute for Animal Production of the Dutch Ministry of Agriculture. In a company press release, Profesor Herman de Boer, vice president of European research, commented on the event:

> This is the first scientifically documented proof of transgenesis in cattle. GenPharm has developed a truly unique process for the routine generation of transgenic cattle based on proprietary integrated technology that includes molecular biology, microinjection and in vitro bovine embryology… In addition, we are now able to retrieve immature eggs from living, elite dairy cattle, giving us the opportunity to completely control the genetic makeup of our transgenic production animals. (**Exhibit 10**)

Business Advancements

Financing

GenPharm's scientific breakthroughs during this period helped to attract new investment in the form of grants and equity financing. In May 1991, GenPharm was awarded two Phase 1 Small

[7] GenPharm International, Inc. press release, December 17, 1991.

Business Innovation Research (SBIR) grants by the National Institutes of Health (NIH). These grants consisted of two six-month contracts, totaling $100,000, to help support GenPharm's ongoing transgenic animal research. (**Exhibit 6**)

Not only did GenPharm raise interest from government entities, it also drew continued interest from the venture capital community. In November 1991, Tom McConnell from New Enterprise Associates (NEA) approached GenPharm and said he wanted to invest in the company. At the same time, GenPharm had been approached by two investment bankers who wanted to take the company public. The biotech sector had been performing well, so an initial public offering would likely be a success. GenPharm's board had to make a decision. As MacQuitty recounted:

> We had to take make a decision. Do we do an IPO earlier than we anticipated with banks that are available right now? (We suspected the window for early stage companies would close soon on the public markets.) Or do we take $12 million from venture capitalists in a funding round led by Tom McConnell of NEA? (The $12 million was almost certain.)

Eventually, the board decided to go for what they considered to be the more certain option – the venture financing. In January 1992, GenPharm closed a $12 million mezzanine financing round in record time. The financing was led by NEA, and additional new investors included PaineWebber Development Corporation; SED Ventures; Glynn Ventures; and Ronald Family Trust A (a Getty family trust). All nine of GenPharm's previous venture investors participated in the financing. (**Exhibit 6**)

Collaboration Agreements

Between 1989 and 1992, GenPharm also established several agreements with other corporations, enabling the company to collaborate on research and cross-license technology. Some of the major agreements included: (**Exhibit 7**)

Agreements Related to Mice:

- **LIDAK Pharmaceuticals:** In December 1990, GenPharm entered into an agreement with LIDAK Pharmaceuticals of La Jolla, California to jointly develop animal models for the transplantation of human tissues for the study of AIDS and other immune system diseases. GenPharm agreed to supply its transgenic immunodeficient (TIM™) mice to LIDAK Pharmaceuticals, which planned to test the animals using its proprietary hu-PBL transplantation technology.[8]

- **DNX Inc.**: In January 1991, GenPharm and DNX Inc. of Princeton, New Jersey, exchanged licenses covering two technologies fundamental to the development of transgenic animals. Under the agreement, which covered DNX's DNA microinjection technology and GenPharm's homologous recombination technology, the companies agreed to pay annual license fees as well as royalties on commercial sales of transgenic animals, recombinant pharmaceuticals and other products developed using transgenic animals.[9]

Agreements Related to Cows:

[8] GenPharm International press release, December 11, 1990.
[9] "DNX and GenPharm cross-license fundamental transgenic animal technologies," *Business Wire*, January 1, 1991.

- **Bristol-Myers Squibb:** In July 1990, GenPharm entered into a research agreement with Mead Johnson & Company, a subsidiary of Bristol-Myers Squibb, to fund the development of and provide for the potential commercialization of human lactoferrin for infant formula.[10] Under the research agreement, Mead Johnson agreed to purchase lactoferrin from GenPharm for use in preclinical and clinical testing. In return, Mead Johnson had the option to acquire marketing rights to infant formula containing lactoferrin in North America.[11]

- **N.V. Verenigde Bedrijven Nutricia:** In September 1990, GenPharm entered into a research agreement with Nutricia relating to human lactoferrin and human lysozyme for incorporation in infant formula. Under the agreement, Nutricia agreed to make research and development payments to GenPharm. Upon completion of research and testing, GenPharm would grant Nutricia a license to market in Europe infant formula containing the proteins.[12]

Initial Public Offering

In February 1992, the IPO window still seemed to be open to young biotech firms, so GenPharm decided to file for an initial public offering. The company planned to use the net proceeds from the offering for research and development expenditures, for expenditures related to plant and equipment (principally for research laboratory and pilot production facilities), and for general corporate purposes.[13]

While interest was high in GenPharm's IPO, on April 16, 1992, the company announced that it decided to postpone the offering. Centocor, a major biotechnology company, had recently suffered a clinical setback with an antibody product. As a result, Centocor's stock price had dropped and dragged down the biotechnology sector with it. (**Exhibit 11**) As MacQuitty explained, "Essentially, the window closed overnight for biotech firms. We had to postpone the IPO indefinitely."

What Next?

With the IPO postponed indefinitely, GenPharm's board was suddenly faced with a difficult decision. The company had been depending on the initial public offering as an additional source of financing. (**Exhibits 12** and **13**) With the biotechnology sector down, the prospect of raising additional funding was nearly impossible. Therefore, during the April board meeting, the directors had to decide how to allocate the remaining funds between mice and cows. As MacQuitty recounted:

> Depending on when the public markets opened up again, we knew we might not have enough resources to do both projects thoroughly, so we tried to weigh the relative merits of each business. We had some people arguing in favor of the cows. They said, "Herman' was born in January 1991. We have semen from him, so we can now start making and breeding large numbers of cattle." The truth

[10]The 1991 United States infant formula market was approximately $1.9 billion. Mead Johnson was the second largest manufacturer of infant formula in the United States, with a market share of approximately 30 percent.
[11] GenPharm International, Inc. S-1 filed February 1992.
[12] Ibid.
[13] GenPharm International press release, March 2, 1992.

was we *thought* we could produce more cows with human DNA, but up until that point, we had only made one. On the other hand, we had some people arguing in favor of the mice. They said, "We've inactivated the mouse antibody genes, and we are close to inserting all the required human DNA. True, we are not certain that all the human DNA will work in mice, but if it does, this business will definitely be more valuable than that of the cows." Any way you looked at it, it was a tough decision.

CONTINUED PROGRESS: 1992 - 1994

Despite the fact that the company's IPO had been indefinitely postponed, GenPharm continued to make significant developments in the period between April 1992 and February 1994. Ultimately, GenPharm's board had voted to continue in both lines of business despite the risks involved in running out of money. Therefore, the company added new management in both the U.S. and Europe to help move the company beyond the research stage and into clinical development and commercialization. In September 1992, David L. Winter, M.D. was appointed president and chief operating officer for GenPharm U.S. (**Exhibit 2**) In a company press release, MacQuitty said, "(Winter) is an experienced physician with a strong background in managing the clinical development and regulatory approval process. We are confident that Dr. Winter can provide the leadership and expertise needed to move GenPharm through our product development phase."[14] In January 1993, George J.M. Hersbach was named president and chief operating officer of GenePharming Europe B.V. (**Exhibit 2**) Like Winter, MacQuitty felt that Hersbach could help the GenPharm's European operations as the company moved toward commercialization.

Research Developments

GenPharm U.S.

Shortly after the board's decision to continue its research in the transgenic mice area, GenPharm made a significant breakthrough. In June 1993, the company successfully transferred a complete segment of the human heavy chain antibody gene into mice. (**Exhibit 8**) The mice, which previously had their own antibody genes inactivated ("knocked out"), could now express human antibody subunits. This development was extremely significant as it finally made it possible to develop human antibodies in mice for the treatment of conditions such as rheumatoid arthritis, transplant rejection, chronic inflammation, and cancer.[15] In recognition of GenPharm's transgenic mouse system for generating completely human monoclonal antibodies (HuMAbs), the company was awarded the 1993 "Best Scientific Achiever" Award at the October 1993 Biotech Meeting at Laguna Niguel sponsored by Ernst & Young and Kleiner Perkins Caufield & Byers.

As GenPharm's research advanced, the company was also able to secure several patents, which helped solidify the company's position as a leader in the area of transgenic animal research. (**Exhibit 14**) On December 24, 1992, the United States Patent and Trademark Office (PTO) notified GenPharm that it would be issued two patents on December 29, 1992. One of the patents was for a transgenic animal, which was a significant development for the biotechnology industry. According to Lisa Raines, vice president for government affairs at the Industry

[14] GenPharm International, Inc. press release, September 16, 1992.
[15] GenPharm International, Inc. press release, June 8, 1993.

Biotechnology Association, "Since Harvard University received the first transgenic animal patent in 1988, there has been continued debate about whether or not additional animal patents would be granted. This PTO decision marks a positive step forward for protecting important U.S. research."[16] The second patent covered the use of a proprietary strain of transgenic mice for carcinogenicity testing.

GenePharming B.V.

GenPharm not only made significant progress in the U.S., it also made history in Europe. In January 1994, "Herman" sired his first transgenic offspring. (**Exhibit 8**) Like "Herman," each of the eight transgenic calves carried a gene for human lactoferrin. In a company press release MacQuitty stated, "The birth of these transgenic calves demonstrates that the human gene carried by "Herman" has been stably transmitted."[17]

Business Advancements

Financing

In August 1992, GenPharm was awarded a Phase II SBIR grant by the NIH, which consisted of a two-year contract totaling $500,000. (**Exhibit 6**) During the first phase of the SBIR program, GenPharm had successfully created a strain of transgenic mice containing human antibody genes. Phase II of the research effort was going to focus on further characterizing the transgenic mice and immunizing them with antigens to generate specific human monoclonal antibodies, which would be useful for the diagnosis and treatment of cancers, cardiovascular diseases, autoimmune diseases, organ transplant rejection and infectious diseases.[18] In August 1993 and January 1994, GenPharm was subsequently awarded its third and fourth SBIR grants. In January 1994, GenPharm was also awarded a $3.1 million Advanced Technology Program (ATP) grant from the National Institute of Standards and Technology (NIST). (**Exhibit 6**)

Collaboration Agreements

GenPharm also continued to establish collaboration agreements with major pharmaceutical companies during this time period. Some of those agreements included: (**Exhibit 7**)

Agreements Related to Mice:

- **Eli Lilly and Company:** In September 1992, GenPharm announced a research agreement with Eli Lilly to fund the development and provide for the potential commercialization of human monoclonal antibodies (HuMAb) products for use in treating certain cancers. Under the agreement, Lilly made an immediate equity investment of $1 million in GenPharm. As the collaboration progressed, Lilly agreed to make additional research and benchmark payments as well as royalties on the resulting products. In return, Lilly received exclusive, worldwide manufacturing and marketing rights for the human antibodies that were developed as a result of the collaboration.[19] In August 1993, GenPharm and Lilly expanded the agreement, and Lilly made an additional equity investment in GenPharm.

[16] Lisa Raines in GenPharm International, Inc. press release, December 24, 1992.
[17] GenPharm International, Inc. press release, January 11, 1994.
[18] GenPharm International, Inc. press release, August 18, 1992.
[19] GenPharm International, Inc. press release, September 30, 1992.

- **Eisai Co., Ltd.:** In June 1993, GenPharm announced it had signed a collaboration agreement with Eisai, a leading Japanese human healthcare company headquartered in Tokyo, Japan. Under the agreement, GenPharm was responsible for the development and initial manufacturing of an unspecified antibody product. In return, Eisai agreed to make research and milestone payments up to $25 million. Eisai also received exclusive marketing rights for Asia. MacQuitty noted that this was an important agreement because it gave GenPharm substantial funding and a presence in Asia, but it did not require that the company forfeit marketing rights for the product worldwide.

Agreements Related to Cows:

- **Collagen Corporation:** In May 1993, GenPharm entered into an agreement with Collagen Corporation. Collagen agreed to purchase $2.0 million of preferred stock and to collaborate with GenPharm in the development of human collagen from the milk of transgenic dairy cattle.[20]

Initial Public Offering: A Second Attempt

Given its success and its financing needs, GenPharm decided to file for another initial public offering in early 1994. One of GenPharm's rivals, Cell Genesys, Inc. (**Exhibit 15**), had successfully completed its IPO in January 1993, securing $44 million in funding and a secondary offering in November 1993, raising another $38 million.[21] GenPharm felt that a public stock offering would give it the financial wherewithal to launch clinical trials of monoclonal antibody drugs and to set up the manufacturing facilities needed to supply antibodies to pharmaceutical company partners.

On February 1, 1994, a few days before GenPharm was to have filed for its IPO, Cell Genesys filed a lawsuit in state court against GenPharm, charging the company with having stolen a trade secret for inactivating a mouse gene. (See **Exhibit 16** for Cell Genesys' press release related to the lawsuit and an article written by the Biotechnology Institute explaining Cell Genesys' claims.)

The day after the suit was filed MacQuitty categorically denied the accusations made in the lawsuit in a press release issued by GenPharm:[22]

> We deny categorically every accusation of wrongdoing made against us. The allegations of the complaint are speculative and the speculations are wrong. We believe that Cell Genesys, having lost the race to be first in generating human antibodies using transgenic mice, now seeks to regain the lead by trying to cry 'foul.' At best, this is poor sportsmanship; at worst, an attempt to use legal process for extra-legal means. We are considering appropriate legal responses.

The lawsuit immediately had an adverse impact on GenPharm, forcing the company to withdraw its filing for an initial public offering a second time.

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[20] GenPharm International, Inc. press release, May 10, 1993.
[21] Cell Genesys, Inc. website (http://www.cellgenesys.com/about-cellgenesys.shtml)
[22] GenPharm International, Inc. press release, February 2, 1994.

FORGING AHEAD: 1994

Despite the fact that its IPO had now been derailed, GenPharm tried to forge ahead throughout 1994. In Europe, the company continued to have success, establishing several new collaboration agreements and expanding its operations to Finland. (**Exhibits 7** and **8**)

Business Advancements

- **Leiden University:** In April 1994, GenePharming signed a research agreement with Leiden University to develop transgenic animals capable of product high levels of Immunoglobulin A (IgA) in their milk. Both parties intended to develop various IgA preparations targeting oral treatment of specific gastrointestinal infections of viral or bacterial origin.

- **Mollegaard Breeding and Research Centre:** In October 1994, GenPharm entered into a distribution agreement with Mollegaard of Ejby, Denmark, which became the exclusive distributor of GenPharm transgenic rate models in Europe.

- **Collagen Corporation:** In November 1994, GenePharming received an additional $1.6 million from Collagen Corporation after the European subsidiary announced the production of human collagen in the milk of transgenic mice.

- **FinnGene Oy:** In December 1994, GenePharming announced that it would acquire FinnGene Oy of Kuopio, Finland. The acquisition would provide GenePharming with additional transgenic research and production capacity in Finland.

Financing Dries Up

While GenPharm had been depending heavily on the IPO to raise additional funds, the company was able to secure some additional financing in the first half of 1994. In March 1994, GenePharming received a loan worth approximately $11.5 million from the Netherlands Ministry of Economic Affairs under the Technical Development Credit Scheme. (**Exhibit 6**) Additionally, GenPharm International received $3 million in new equity financing from a group of Japanese investors in June 1994. The financing was led by Techno-Venture Co., Ltd., together with Nichimen Corporation and other Japanese venture capital firms including Kokusai Finance Co. Ltd., Daiwa Business Investment Co. Ltd., and Fujigin Capital Company. (**Exhibit 6**)

Despite the company's success in raising some money early in 1994, the lawsuit began to hinder GenPharm's ability to raise additional funds in the second half of 1994. By the end of 1994, GenPharm was running low on cash. (**Exhibit 13**)

GENPHARM IS HIT HARD: 1995 - 1996

At the beginning of 1995, it became clear that GenPharm did not have enough funding to sustain its various research projects. As a result, GenPharm began laying off employees and trying to find a buyer. The company had initiated merger discussions with Scotgen, Ltd., a Scottish biotech company that was performing research on the humanization of antibodies. But in mid-April 1995, the negotiations fell apart when Scotgen announced that it had to cease operations.

In a company-wide memorandum dated April 14, 1995, MacQuitty explained that GenPharm might have to follow suit. (See **Exhibit 17**)

Spin-Off of GenePharming B.V.

With the company possibly on the verge of shutting down, GenPharm's board of directors had to decide how to proceed. While the U.S. operations could not raise additional funding, GenePharming B.V. had the opportunity to raise its own funding and possibly go public in Europe. As MacQuitty explained:

> The European portion of the operations wanted to get additional financing, and it could only do so if it were separated from the parent company. GenePharming had also been approached about doing an EASDAQ (like the European NASDAQ) offering. In order to do so, the company had to be headquartered in Europe.

Therefore, in April 1995, the Board voted to spin off GenePharming, which was renamed Pharming B.V. (**Exhibit 4**) All of the GenPharm International shareholders received shares in the new company in the same *pro rata* fashion that they had ownership in GenPharm International.

After spinning off GenePharming, GenPharm had to continue to take drastic steps to cut down its expenses. In August 1995, GenPharm sold its Transgenic Laboratory Products division to Taconic Farms, Inc. in Germantown, New York, so that the company, according to MacQuitty, "could focus on its core business generating high affinity human antibodies using the HuMAb-Mouse system."[23] The company also sold a majority of its operating equipment, as well as its leasehold improvements, reduced its work force, and relocated its continuing operations to smaller facilities. Colella further described the situation at GenPharm at the time:

> What was left in the U.S. was a really shrunk-down organization. At one point, we had about 70 people in the U.S., but we had to scale down to just nine people. And God bless those nine people. They were committed believers in what we were doing. They said, 'We are going to continue to pursue the science, make progress, and keep this thing alive.' Jonathan, for example, worked for part of the time without a salary. We basically had to run things on a shoestring because we had to put all of our capital into defending the lawsuit.

At the end of December 1995, GenPharm's shareholder's equity had dropped to negative $2.1 million. (**Exhibit 13**)

RESOLUTION OF LEGAL ISSUES

As GenPharm continued to run its operations in the U.S. on a shoestring, the legal situation continued to unfold. In February 1996, GenPharm filed a second claim against Cell Genesys, this time in the United States District Court for the Northern District of California. The new complaint alleged that Cell Genesys violated the Sherman Antitrust Act when it filed an action

[23] Biotech Patent News, "Taconic to Offer Transgenic Mice and Rats," August 1, 1995.

against GenPharm in the State of California, Santa Clara County, in February 1994. Also in February 1996, Cell Genesys obtained a delay in the trial until 1997.

In October 1996, GenPharm received two U.S. patents for transgenic mice producing human antibodies, U.S. Patent numbers 5,545,806 and 5,569,825. (**Exhibit 14**) Once these patents were granted, GenPharm brought a patent infringement suit under them against Abgenix, Inc., a wholly-owned subsidiary of Cell Genesys, Inc. In January 1997, when GenPharm was issued a further U.S. patent relating to transgenic mouse technology, U.S. Patent number 5,591,669 (**Exhibit 14**), the company brought another patent infringement suit against Abgenix.

As the trial date approached, Cell Genesys announced on January 14, 1997, that it would withdraw its lawsuit in its entirety. At that point, Cell Genesys and GenPharm begin to negotiate a cross-licensing agreement.

Plans Moving Forward

With the Cell Genesys lawsuit withdrawn and the cross-licensing agreement under negotiation, the GenPharm Board started to evaluate GenPharm's strategic options going forward. After reviewing its options, the Board felt that it should begin to explore the possibility of partnering with a larger company. The directors felt that if they found the right partner, GenPharm could benefit from the financial resources and development capabilities of a larger company in order to develop its pharmaceutical products to the point of commercial viability. As Colella explained:

> We felt we needed a partner because we knew we needed additional capital. At that point, a lot of the funds that previously had invested in GenPharm were fully committed. Therefore, we would have had to go out and get new investors, which would have been possible but difficult. Our other option was to find a corporate partner that would either invest in us or acquire us.

Starting in January 1997, the Board began meeting with several companies. As GenPharm met with potential partners, the company also got several pieces of good news. First, in March 1997, GenPharm signed a research and commercialization agreement with Centocor, Inc. (**Exhibit 7**) The collaboration was based on GenPharm's HuMAb-Mouse strain and was focused on developing completely human antibodies to several unnamed antigens. Under the agreement, Centocor announced it would pay as much as $57 million in research and benchmark payments to GenPharm, depending on the success of the program, as well as make two equity investments. (**Exhibit 6**) Following on the heels of the resolution of the legal issues with Cell Genesys, GenPharm considered this agreement to be a big win. According to MacQuitty:

> Centocor is the most successful company worldwide in commercializing antibodies as therapeutic agents. Their substantial capabilities in this area, combined with GenPharm's powerful HuMAb-Mouse system could lead to the first human antibodies from this collaboration entering the clinic in 1998.[24]

Shortly after the Centocor agreement was signed, GenPharm announced another positive piece of news in late March 1997. Cell Genesys, Inc. announced that its subsidiary Abgenix, Inc. and its joint venture partner Japan Tobacco Inc. had entered into a comprehensive cross-license and

[24] Jonathan MacQuitty in GenPharm International, Inc. press release, March 3, 1997.

settlement agreement with GenPharm. (**Exhibit 8**) The agreement included a worldwide royalty-free cross-license to all issued and related patent applications pertaining to the generation of fully human monoclonal antibodies in genetically modified strains of mice. Under the agreement, GenPharm also was to receive settlement payments of up to $37.5 million (**Exhibit 6**), as follows:

- Cell Genesys agreed to issue a note due September 30, 1998 for $15 million, which would bear interest at 7 percent per year and which would be convertible at the option of GenPharm into 1,666,666 shares of Cell Genesys common stock at $9.00 per share.

- Japan Tobacco agreed to make a cash payment to GenPharm of $7.5 million within 15 days of the execution of the cross-license agreement.

- Xenotech, L.P., an equal joint venture of Abgenix and Japan Tobacco, agreed to make two potential milestone payments of $7.5 million each to GenPharm based on the future issuance of certain patents relating to human monoclonal antibody technology in Europe, Japan, and/or the United States.

Acquisition Offers

During the month following the announcement of the cross-licensing and settlement agreement, GenPharm's Board continued to hold conversations with potential partners. Specifically, GenPharm held confidential discussions with Medarex, Inc. (**Exhibit 19**), a publicly traded biotechnology company, regarding a possible merger of the two companies and held similar discussions with a privately held biotechnology firm. After several weeks of negotiations, both companies submitted written proposals to GenPharm:

- On April 8, 1997, Medarex made a preliminary proposal to acquire GenPharm at a price of $60 million to be paid in shares of Medarex Common Stock. The payment would occur in two tranches, with up to 3.5 million shares to be delivered at an initial closing and additional shares to be issued at a second closing equal to $60 million less the value of the initial shares. The second closing would take place following receipt by GenPharm of third party payments, which included patent license fees and promissory note payments. The closing sale price of Medarex shares on April 8 was $6.625. With an average of 17,963,137 shares outstanding during the first quarter of 1997, Medarex's market capitalization was approximately $119 million.

- On April 11, 1997, a privately held company also submitted a purchase proposal to GenPharm's Board. The proposal included the following elements: 1) $15 million to be paid in shares of common stock of the company upon approval of the transaction by the GenPharm shareholders; 2) cash payments from time to time to the GenPharm shareholders of the net proceeds to be received from the third party payments, which GenPharm's Board valued at $33 million; and 3) the issuance of warrants to purchase shares of the company's common stock in an amount and at an exercise price to be determined.

After reviewing both proposals, GenPharm's Board rejected the offer made by the privately held company. As Colella explained, "The private company saw us as the vehicle that would enable them to go public… we decided that if we were going to sell, we at least wanted to get a liquid

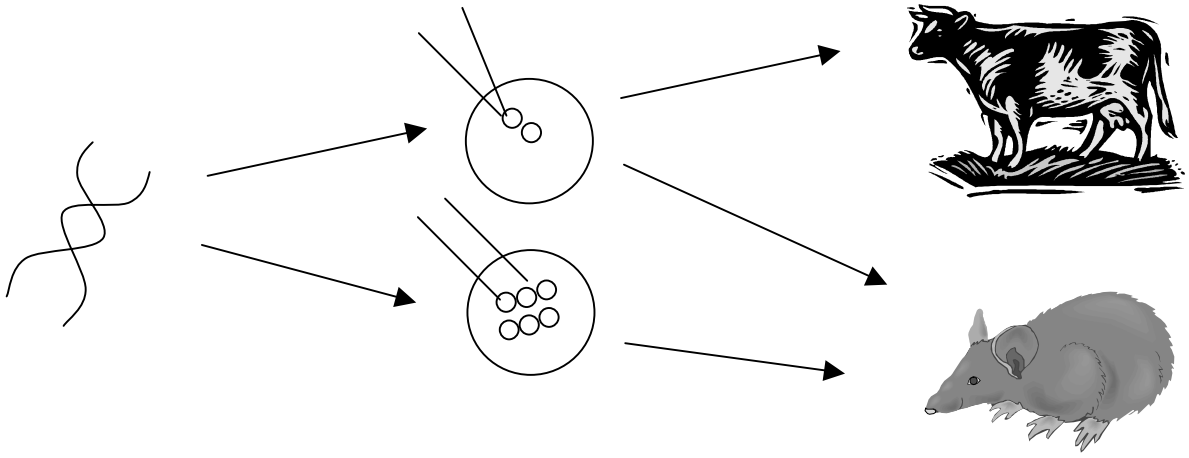
security for our investors." After rejecting the private proposal, GenPharm's Board voted to negotiate with Medarex for more favorable financial terms.

On April 28, 1997, Medarex delivered a revised proposal to GenPharm's Board of Directors. Medarex agreed to acquire GenPharm International, Inc. for up to $65 million in Medarex Common Stock. (**Exhibit 20**) Medarex agreed to issue up to 3,250,000 shares of Medarex Common Stock to holders of GenPharm Preferred Stock during 1997. (**Exhibit 21**) Additional shares would be issued on or before December 31, 1998 representing the balance of the purchase price, but only if GenPharm had received its patent license fees and promissory note payments from certain third parties. The closing price of Medarex shares on that date was $6.875.

THE DECISION

While the Medarex offer was attractive, the GenPharm Board of Directors had a difficult decision to make. On behalf of GenPharm's shareholders (**Exhibit 21**), the Board needed to be certain that this was a fair price for the company. Additionally, given that the payments would be made with Medarex Common Stock, the Board needed to be certain that the Medarex stock was not heading south. (**Exhibit 19**) Finally, the company's management team had pushed through very difficult times to ensure the continued development of GenPharm's cutting edge products. The Board wanted to be certain that Medarex was the right company to continue developing and eventually commercializing its human monoclonal antibodies. The Board had less than 24 hours to decide.

Exhibit 1
Transgenic Animal Technology



Clone Human Gene | **Insert Into Animal Embryo*** | **Transgenic Animal Systems**

*There were 2 approaches to introducing the human gene into the animal embryo:

1. Microinjection
2. Use of embryonic stem cells

Source: Dr. Jonathan MacQuitty, Presentation entitled, "Industrial Perspectives in Biotechnology," April 8, 1993

Exhibit 2
GenPharm International, Inc. Selected Executive & Director Profiles

Jonathan MacQuitty, Ph. D. In 1999, Dr. MacQuitty became a director of Abingworth Management Ltd., London, United Kingdom (UK) and President of Abingworth Management Inc. in Palo Alto, CA. Abingworth was one of the UK's oldest venture capital firms and a leading investor in the life science area in the US and Europe with more than $400 million under management. In 1988, Dr. MacQuitty co-founded GenPharm International, a biotech company developing transgenic animal technology. He was CEO of the company until 1997 when he became the US representative of one of the largest venture capital firms in Japan. Prior to founding GenPharm, Dr. MacQuitty helped to launch Genencor, Inc., which was a joint venture between Genentech and Corning Glass Works that focused on industrial enzymes. At Genencor, he worked as the director of business development from 1983 to 1985 and the vice president of commercial development from 1985 to 1988. Before joining Genencor, Dr. MacQuitty served as the manager of industrial products at Genentech, Inc. from 1982 to 1983. Dr. MacQuitty received an MA in Chemistry from Oxford University, a Ph.D. in Chemistry from Sussex University, and an MBA from Stanford. He has served on the Board of the Biotechnology Industry Organization ("BIO") and as a director of a number of biotechnology companies.

Samuel Colella. Colella has been a highly visible and respected venture capitalist, particularly for his leadership in life sciences investing. Colella co-founded Versant Ventures following 20 years of successful operational roles in high technology industries and more than 17 years with Institutional Venture Partners (IVP). Colella joined IVP as a general partner in 1984 and launched the firm's Life Science Group in 1985, the first such focused group within a venture capital firm in the industry. With investments focused in medical devices, biotechnology and e-Health companies, Colella is credited with an extensive list of successful life science companies, including Onyx Pharmaceuticals (public), Vivus (public), Pharmacopoeia (public), CV Therapeutics (public), and Symyx Technologies (public). Prior to IVP, he was president of a New York Stock Exchange company and held a variety of functional positions at a broad array of diverse businesses, including president of Spectra-Physics, the world's leading laser supplier, and senior manager of the Technical Products Division of Corning Glass. His professional affiliations included a term as an officer in the National Venture Capital Association, the Western Association of Venture Capitalists and the American Entrepreneurs for Economic Growth. Sam received a bachelor's degree in business and engineering from the University of Pittsburgh and an MBA from Stanford University.

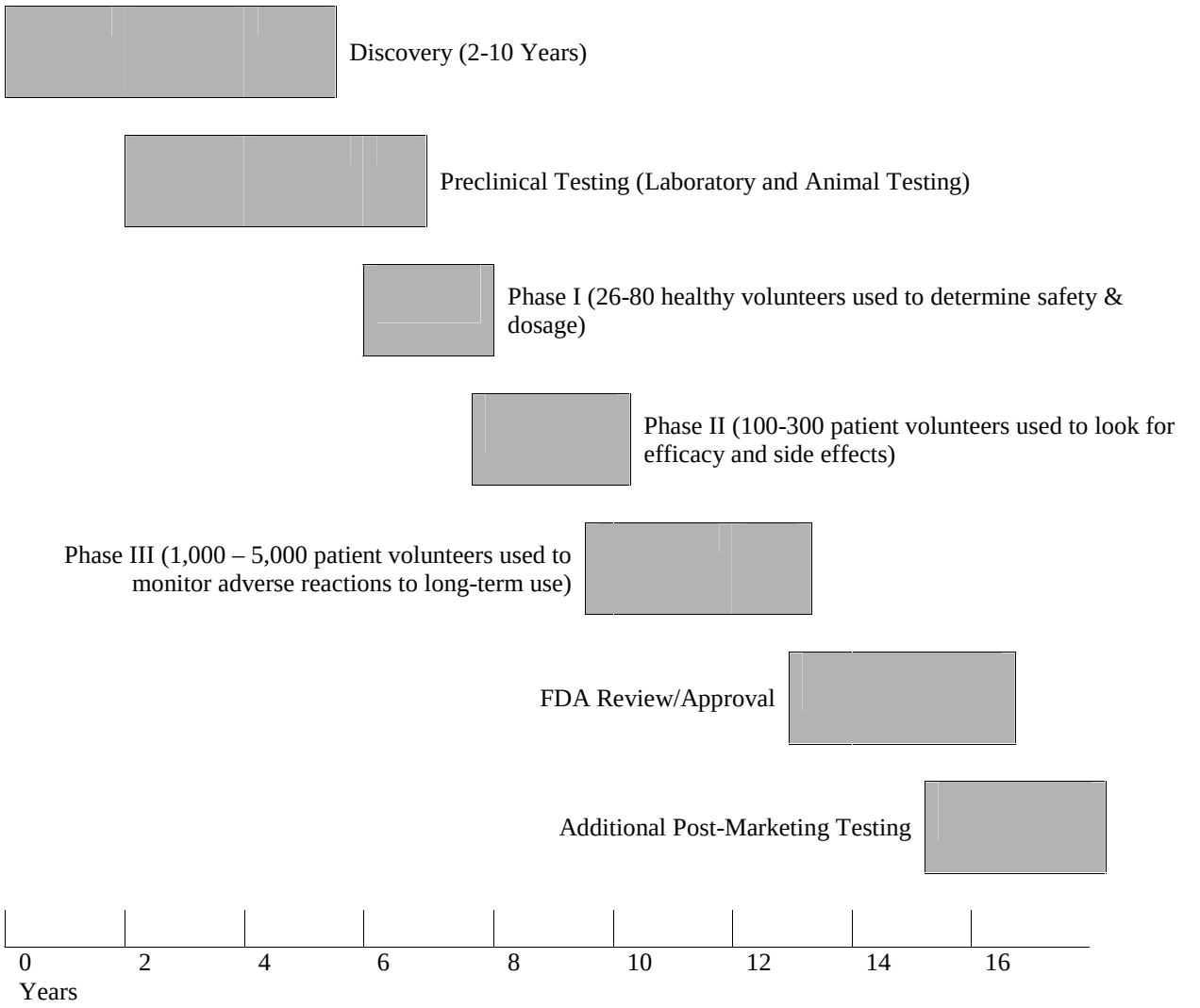
David L. Winter, M.D. Dr. Winter joined GenPharm International in October 1992 as president and chief operating officer, United States. Since 1979 and prior to joining the company, Dr. Winter held various management and scientific positions with Sandoz Pharmaceutical Corporation, including president of the Sandoz Research Institute. He also served as vice president, scientific and external affairs. From 1971 to 1979, Dr. Winter was with the United States National Aeronautics and Space Administration ("NASA"), where he was NASA director of life sciences from 1974 to 1979. Dr. Winter received an M.D. from the Washington School of Medicine, St. Louis, Missouri.

George J.M. Hersbach. Mr. Hersbach joined GenPharm in February 1993 as president and chief operating officer, Europe. Since 1987 and prior to joining the company, Mr. Hersbach held various management positions with EuroCetus, an Amsterdam-based biotechnology company and a division of Chiron Corporation. He served most recently as vice president of operations, a position in which he had responsibility for biopharmaceutical manufacturing, process and product development, quality control and assurance, regulatory matters and European product distribution. From 1977 until joining EuroCetus, he held various management and technical positions in the United States and Europe with Royal Gist-brocades. Mr. Hersbach received an M.Sc. degree in Chemical Technology from the Delft University of Technology in The Netherlands and a European engineer certificate from the FEANI.

Professor Herman de Boer. Dr. de Boer was a founder of GenPharm International and served as its vice president of research and development, Europe from the company's inception through 1994. He also was a professor of biochemistry and biotechnology at Leiden University since 1987. From 1982 to 1987, Dr. de Boer was a senior scientist at Genentech where he had been employed since 1980. He was responsible for the cloning and expression of bovine growth hormone and led Genentech's project on human serum albumin production from yeast. Dr. de Boer received a NATO-ZWO fellowship for post-doctoral work at the University of Wisconsin. Dr. de Boer has had over 40 publications and patents in the area of gene expression and regulation. He received his Ph.D. in molecular biology from the University of Groningen, The Netherlands.

Source: GenPharm International company documents.

Exhibit 3
Stages of a Biotechnology Company



Source: PhRMA in Patrick Mooney, M.D. and Brigette Roberts, M.D., "Biotechnology and Cancer: A White Paper on Biotechnology Trends 2001 – 2010, With a Spotlight on Cancer," Thomas Weisel Partners Merchant Banking, January 3, 2002.

Exhibit 4
GenPharm International, Inc. History

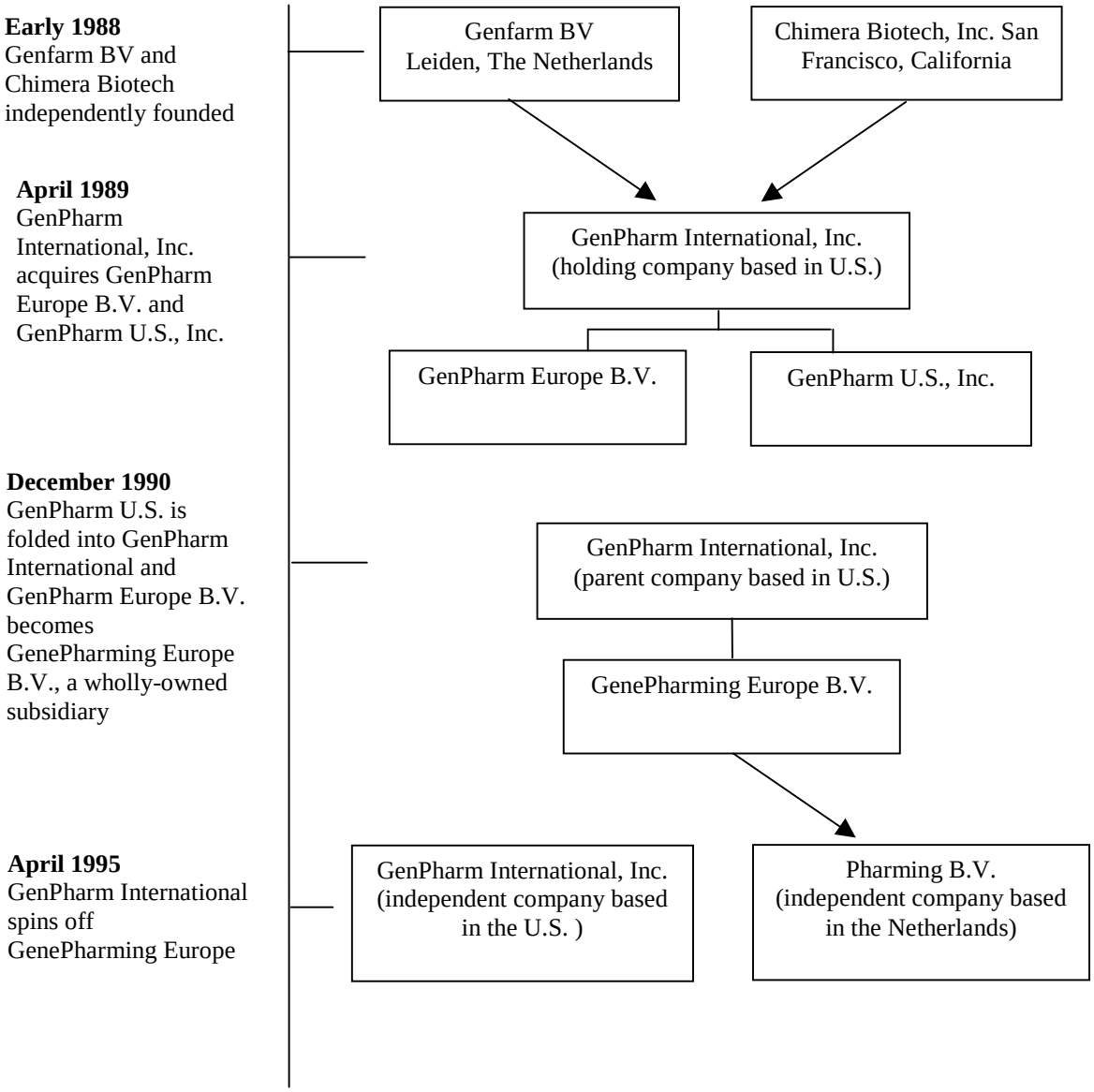
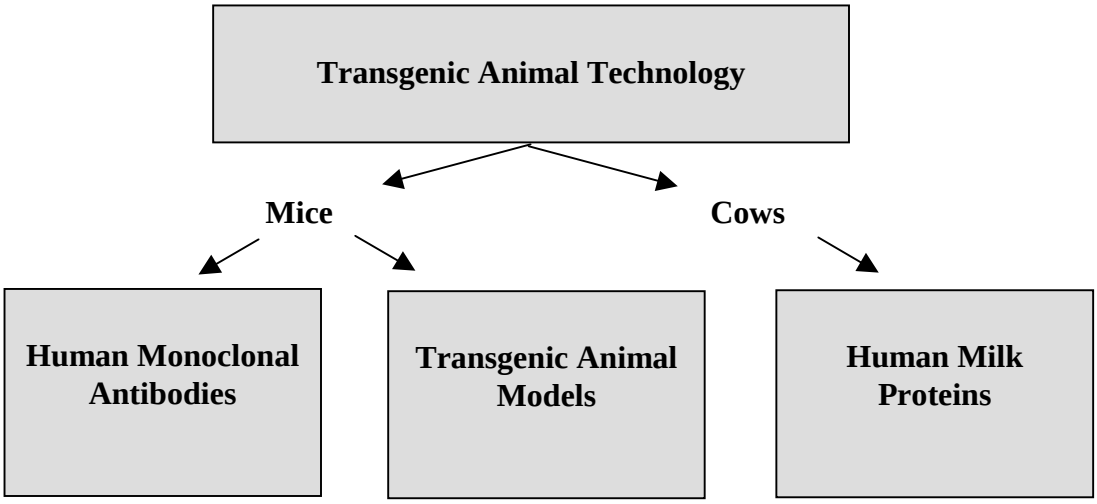


Exhibit 5
GenPharm International, Inc. Business Units



Therapeutic Antibody Market:
$3.3 billion potential market

- Autoimmunity/transplantation ($1.4 billion)
- Cancer ($0.7 billion)
- Inflammation ($0.7 billion)
- Infectious diseases ($0.5 billion)

Research Rodents:
$150 million market

- Transgenic mice are high value products with a cost of $80 - $125 each vs. non-transgenic mice at $5 - $35 each

Infant Formula:
$4.0 billion market

- Human lactoferrin and human lysozyme are both present in human milk but not present in cow milk

Source: Dr. Jonathan MacQuitty, Presentation entitled, "Industrial Perspectives in Biotechnology," April 8, 1993

Exhibit 6
GenPharm International, Inc. Financing History

Date	Amount	Firms	Partners Involved
1988	$600,000 (Series A and B)	Institutional Venture Partners (IVP); Fairfield Ventures; Avalon Ventures; Genencor, Inc.	Sam Colella; Ned Olivier
August 1989	$6 million (Series C)	IVP; Fairfield Ventures; Delphi BioVentures; Kleiner, Perkins, Caufield & Byers; Merrill Pickaard Anderson & Eyre	Sam Colella; Ned Olivier; Costa Sevastopoulos; Brook Byers; and Jeff Pickard
July 1990	$4.1 million (Series D)	A group of European investors, including: Abingworth Management (UK); Atlas Ventures (the Netherlands); Charterhouse Venture Fund (UK); Euroventures (the Netherlands)	David Leathers; Michiel de Haan; John Walker; and Leo Sturm
May 1991	$100,000	GenPharm was awarded two Phase 1 Small Business Innovation Research grants by the National Institutes of Health (NIH). Included two six-month contracts.	
December 1991	$12 million (Mezzanine)	New Enterprise Associates (NEA); PaineWebber Development Corporation; Sed Ventures; Glynn Ventures; Ronald Family Trust A (a Getty family trust); and all nine of GenPharm's previous venture investors.	Tom McConnell (NEA)
August 1992	$500,000	GenPharm was awarded a Phase II Small Business Innovation Research (SBIR) grant by the National Institutes of Health (NIH). Included a two-year contract.	
September 1992	Undisclosed amount	Equity investment from Eli Lilly as part of a collaboration agreement.	
March 1993	$5.3 million	GenPharm was awarded an Advanced Technology Program (ATP) grant by the National Institute of Standards and Technology (NIST). Under the three-year contract, GenPharm would extend its technology for using Yeast Artificial Chromosomes (YAC) to insert large genes into transgenic animal models.	
May 1993	Purchase of $2.0 million of GenPharm stock	Collagen Corporation agreed to purchase $2.0 million of preferred stock in GenPharm as part of a collaboration agreement.	
June 1993	Payments up to $25 million	Under a collaboration agreement, Eisai Co., Ltd. agreed to make research and milestone payments up to $25 million to GenPharm.	
August 1993	Undisclosed amount	Additional equity investment from Eli Lilly as part of Phase II of the Lilly-GenPharm collaboration agreement.	
August 1993	Approximately $400,000	GenPharm was awarded two 2-year Phase II SBIR grants by NIH.	
January 1994	Undisclosed	GenPharm was awarded its fourth Phase II SBIR grant by NIH.	
January 1994	$3.1 million	The National Institute of Standards and Technology awarded GenPharm an Advanced Technology Program (ATP) grant. The three-year grant, totaling $3.1 million, went to helping GenPharm expand its program for *in vivo* modeling of human disease in transgenic immunodeficient animal model system.	

Exhibit 6 (Continued)
GenPharm International, Inc. Financing History

March 1994	$11.5 million loan	The Netherlands Ministry of Economic Affairs granted GenPharm's European operation a loan under the Technical Development Credit Scheme.	
June 1994	$3 million	A group of Japanese investors, including: Techno-Venture Co., Ltd.; Nichimen Corporation; Kokusai Finance Co., Ltd.; Daiwa Business Investment Co., Ltd.; and Fujigin Capital Company.	
October 1994	$1.6 million	Collagen Corporation made an additional equity investment as part of its expanded collaboration agreement with GenPharm.	
March 1997	Payments up to $57 million	Under a collaboration agreement, Centocor, Inc. agreed to make research and benchmark payments up to $57 million to GenPharm.	
March 1997	Up to $37.5 million	Cross-licensing and settlement agreement with Cell Genesys, its subsidiary Abgenix, and Japan Tobacco.	

Source: GenPharm International, Inc. press releases and public filings

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Exhibit 7
GenPharm International, Inc. Major Collaboration and Licensing Agreements

Agreements Related to Mice:

Date	Partner	Description of Agreement
September 1989	University of Utah Research Foundation	Agreement to license the homologous recombination technology developed by a research team at the University of Utah. Homologous recombination, often referred to as gene targeting, improved the efficiency and specificity of incorporating foreign DNA into the chromosome.
April 1990	Stanford University	Worldwide license agreement granting GenPharm the rights to use the hematopoietic stem cell technology developed by a research team at Stanford.
December 1990	LIDAK Pharmaceuticals, La Jolla, California	Agreement to jointly develop animal models for the transplantation of human tissues for the study of AIDS and other immune system diseases.
January 1991	DNX, Inc.	Exchanged licenses covering DNX's DNA microinjection technology and GenPharm's homologous recombination technology.
March 1991	Massachusetts Institute of Technology and the Whitehead Institute	GenPharm gained an exclusive worldwide license for mice lacking a class of antigenic proteins responsible for rejection of tissue transplants.
September 1992	*Eli Lilly and Company	Collaboration to develop human monoclonal antibodies for use in treating certain cancers. These antibodies will be generated from GenPharm's transgenic mouse strains containing human antibody genes. These antibodies will be used in conjunction with Lilly's proprietary drug-targeting technology in order to develop monoclonal antibody drug conjugates having increased clinical efficacy and diminished side effects. GenPharm received an immediate equity investment from Lilly, as well as research and benchmark payments as the collaboration progresses and royalties on the resulting products. In return, Lilly will receive exclusive, worldwide manufacturing and marketing rights for these human antibodies.
June 1993	*Eisai Co., Ltd.	Under the agreement, GenPharm was responsible for development and initial manufacturing of the antibody product. Eisai would make research and milestone payments up to $25 million, assuming all the benchmarks were successfully met and the product received approval in Japan for therapeutic use. In return, Eisai received exclusive marketing rights for Asia as well as certain manufacturing rights.
August 1993	*Eli Lilly and Company	GenPharm's research program with Eli Lilly aimed at developing human monoclonal antibodies for the treatment of certain cancers was expanded. Under Phase II of the collaboration, Eli Lilly made an additional equity investment in GenPharm and increased various research payments for development work.
August 1994	Mollegaard Breeding and Research Centre (Ejby, Denmark)	GenPharm entered into a distribution agreement with Mollegaard, which became the exclusive distributor of GenPharm transgenic rat models in Europe.
March 1995	Nichimen Corporation	GenPharm entered into a distribution agreement with Nichimen Corporation of Tokyo, Japan. Nichimen became the exclusive distributor of GenPharm transgenic animal models in Japan.

Exhibit 7 (Continued)
GenPharm International, Inc. Major Collaboration and Licensing Agreements

December 1995	*Eisai Co., Ltd.	GenPharm signed a renewal of its R&D Collaboration Agreement with Eisai.
September 1996	Geron Corporation	GenPharm sublicensed several technologies for genetically modifying primate primordial stem cells prior to their transplantation as a potential treatment for age-related diseases to Geron Corporation.
December 1996	LeukoSite, Inc.	GenPharm renewed its collaboration agreement with LeukoSite, Inc., a leading biotechnology company in the area of immunology and inflammation, on human antibodies against IL-8.
March 1997	*Centocor, Inc.	GenPharm signed a Research and Commercialization Agreement with Centocor, Inc., which was based on GenPharm's HuMAb-Mouse strain. The collaboration was focused on developing completely human antibodies to several unnamed antigens. Research and benchmark payments to GenPharm could total $57 million.

Agreements Related to Cattle:

Date	Partner	Description of Agreement
July 1990	*Bristol-Myers Squibb	Research agreement with Mead Johnson & Company, a subsidiary of Bristol-Myers Squibb, to fund the development of and provide for the potential commercialization of human lactoferrin for infant formula.
September 1990	*N.V. Verenigde Bedrijven Nutricia	Research agreement with Nutricia relating to human lactoferrin and human lysozyme for incorporation in infant formula.
May 1993	*Collagen Corporation	Collagen Corporation agreed to purchase $2.0 million of preferred stock in GenPharm International and to collaborate with GenPharm in the development of human collagen from the milk of transgenic dairy cattle.
April 1994	Leiden University	GenPharm's European operation signed a research agreement with Leiden University to develop transgenic animals capable of producing high levels of Immunoglobulin A (IgA) in their milk throughout lactation.
October 1994	*Collagen Corporation	Collagen Corporation made a further investment in GenePharming Europe B.V. and expanded the May 1993 agreement to produce and commercialize human collagen from the milk of transgenic dairy cattle.
January 1995	Genzyme Transgenics Corporation	GenePharming B.V. and Genzyme Transgenics Corp. announced that they cross-licensed certain fundamental patent rights related to human protein production in transgenic animals.

*Designates most important agreements for GenPharm.

Source: GenPharm International, Inc. press releases and public filings.

Exhibit 8
GenPharm International, Inc. Major Milestones

Research and Research Awards

Human Monoclonal Antibodies

- **February 1, 1991:** A new study reported in *Cancer Research* demonstrated the first successful use of transgenic animals as an *in vivo* detection system for mammalian carcinogens. The researchers, who were led by GenPharm International scientific advisor Dr. Anton Berns, conducted their studies with transgenic mice engineered to over express the pim-1 oncogene. It was anticipated that using these mice would lower testing and animal care costs.

- **December 17, 1991:** GenPharm announced it had generated the world's first transgenic mice to produce mature human antibody diversity. The mice contained sequences of functional, human immunoglobulin (Ig) genes that correctly recombined to provide a broad range of antibodies.

- **May 8, 1992:** GenPharm International announced that it was notified by the United States Patent and Trademark Office that two of its initial patent applications involving transgenic animals had allowable patent claims. The first set of claims covered one strain of transgenic immunodeficient (TIM™) mice under development at the company. These mice were being developed for immunology research as improved recipients of human cells or tissues. The second set of claims covered the use of GenPharm's PIM® transgenic mice for carcinogenicity testing. These mice over expressed the pim-1 oncongene and were sensitive to the presence of carcinogens.

- **December 24, 1992:** The United States Patent and Trademark Office (PTO) notified GenPharm International that it would be issued two patents. Patent #5,175,384 covered a version of the transgenic immunodeficient mice under development at GenPharm as improved recipients of human immune tissue and for immunology research. The second patent, #5,174,986, covered the use of GenPharm's PIM transgenic mice for carcinogenicity testing.

- **June 8, 1993:** Scientists at GenPharm International successfully transferred a complete segment of the human heavy chain antibody gene into mice. The mice, which previously had their own antibody genes inactivated ("knocked out"), could now express human antibody subunits.

- **October 22, 1993:** GenPharm International received the 1993 "Best Scientific Achiever" Award at the October Biotech Meeting at Laguna Niguel sponsored by Ernst & Young and Kleiner Perkins Caufield & Byers. The Award was made in recognition of GenPharm's transgenic mouse system for generating completely human monoclonal antibodies (HuMAbs).

- **April 27, 1994:** GenPharm announced that its researchers had successfully completed development of the HuMAb™ mouse, thus enabling a new, reliable method of generating fully human monoclonal antibodies from transgenic mice.

- **January 31, 1995:** GenPharm International announced that it would start marketing a new transgenic mouse model, the MDR1 A-Mouse™. This mouse model carried a functional deficiency in the blood brain barrier. GenPharm acquired an exclusive world-wide license for this mouse strain and associated technologies from the Netherlands Cancer Institute (NCI).

- **December 5, 1995:** GenPharm International announced at the 6th International Conference on Antibody Engineering in La Jolla, California, the generation of high affinity human IgG antibodies suitable for therapeutic use. These antibodies were produced from GenPharm's HuMAb-Mouse™.

- **October 31, 1996:** The U.S. PTO issued to GenPharm International, Inc. two U.S. patents for transgenic mice producing human antibodies. (U.S. Patent #5,545,806 and #5,569,825)

- **December 3, 1996:** GenPharm announced at the 7th International Conference on Antibody Engineering in La Jolla, California, the generation of high affinity human IgG antibodies against human IL-8.

- **January 8, 1997:** GenPharm was awarded a further patent relating to transgenic mouse technology, Patent #5,591,669, which covered transgenic mice whose antibody genes had been inactivated.

Exhibit 8 (Continued)
GenPharm International, Inc. Major Milestones

Human Milk Proteins

- **August 26, 1991:** GenPharm International successfully generated the world's first transgenic dairy calf, which carried a gene for the production of an important human milk protein, human lactoferrin, in cow milk.

- **January 11, 1994:** "Herman", the world's first transgenic bull, sired his first transgenic offspring. Each of the eight transgenic calves carried a gene for human lactoferrin, an antibacterial protein normally produced in human milk.

- **April 19, 1994:** GenPharm was awarded a patent from the United States Patent and Trademark Office for the company's technology for producing proteins in mammalian milk. (U.S. Patent No. 5,304,489 entitled "DNA Sequences to Target Proteins to the Mammary Gland for Efficient Secretion")

- **October 27, 1994:** GenePharming Europe B.V. announced the production of human collagen in the milk of transgenic mice; also that Collagen Corporation invested a further $1.6 million in the company.

Business Milestones

(Note: See **Exhibit 6** for Financing and **Exhibit 7** for Collaboration and Licensing Agreements)

- **1991:** GenPharm commenced shipment of two transgenic mouse models for toxicology and immunology.

- **March 2, 1992:** GenPharm International, Inc. announced that it had filed a Registration Statement in February 1992 with the Securities and Exchange Commission relating to an initial public offering of 2,500,000 shares of its common stock.

- **September 16, 1992:** David L. Winter, M.D. was appointed president and COO for GenPharm U.S.

- **January 11, 1993:** GenPharm named George J.M. Hersbach as president and chief operating officer of GenePharming Europe.

- **February 1, 1994:** Cell Genesys, Inc. filed a lawsuit against GenPharm International, Inc.

- **April 12, 1994:** Professor Herman A. de Boer resigned as chief scientific officer of GenePharming Europe B.V. and became an advisor to the company on new scientific opportunities the company wanted to evaluate.

- **December 2, 1994:** GenePharming Europe B.V. announced that it would acquire a controlling interest in FinnGene Oy of Kuopio, Finland. The two companies intended to consolidate their activities on the production of biomedical proteins in the milk of transgenic animals.

- **August 1, 1995:** GenPharm sold its Transgenic Laboratory Products division to Taconic Farms, Inc.

- **October 1996:** GenPharm filed a patent infringement suit against Abgenix, Inc., a wholly-owned subsidiary of Cell Genesys, Inc., under U.S. Patents #5,545,806 and #5,569,825.

- **January 8, 1997:** GenPharm brought a second patent infringement suit against Abgenix under U.S. Patent #5,591,669.

- **January 15, 1997:** Cell Genesys, Inc. withdrew its lawsuit against GenPharm International.

- **March 27, 1997:** Cell Genesys, Inc. announced that the company, its subsidiary Abgenix, Inc. and its joint venture partner Japan Tobacco Inc. had entered into a comprehensive patent cross-license and settlement agreement with GenPharm International for human monoclonal antibody technology. Additionally, GenPharm International received a total of up to $37.5 million as part of the settlement agreement.

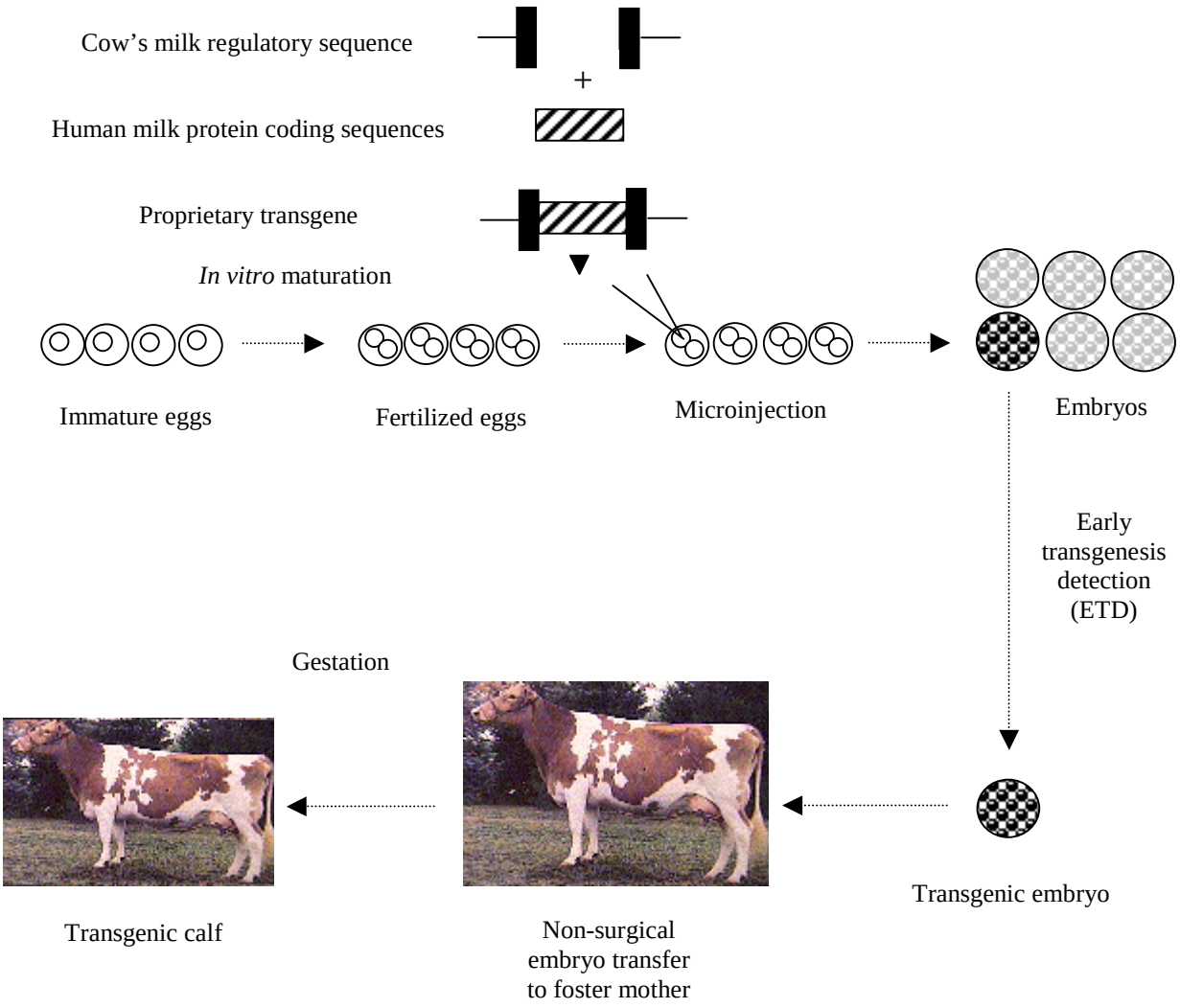
Exhibit 9
GenPharm International Product Technology Status
February 1992 and February 1994

Technology	Potential Applications	Product	February 1992 Status	February 1994 Status
Human milk proteins produced in transgenic dairy cattle	Nutritional product for use in infant formula	NuLactin™ NuLysin™	Preclinical Development	
	Therapeutic product for immunocompromised patients	Human lactoferrin	Preclinical	
	Therapeutic product for prevention of septic shock	Human lactoferrin Human lysozyme	Preclinical Development	
Human monoclonal antibodies generated by transgenic mice	Treatment of cancer, autoimmune and infectious diseases, and immunosuppression for transplants and other applications	Human monoclonal antibodies	Research	
	Treatment of certain types of cancer	HuMAb-EL-1[25] HuMAb-EL-2		Research Research
	Treatment of autoimmune disorders, including rheumatoid arthritis and psoriasis	HuMAb-GP-3 HuMAb-GP-7		Research Research
	Treatment of organ transplant rejection	HuMAb-GP-6		Research
	Treatment of acute inflammation and sepsis	HuMAb-GP-5 HuMAb-GP-4		Research Research
Transgenic mice as research models	Toxicology	PIM® mouse	Product sales	Product sales
	Immunology	C1D™ mouse	Product sales	Product sales
	Toxicology/Drug discovery	TSG-p53™ mouse	Breeding	Product sales
	Toxicology/Drug discovery	TSG-p53/Big Blue mouse		Product sales
	Immunology	C2D™ mouse	Breeding	Product sales
	Immunology	TIM RAG-2 mouse		Product sales
	Drug discovery	TIM™ mouse	Development	
	Drug discovery	HLA-B27 rat		Product sales

Source: GenPharm International, Inc. Prospectus filed February 12, 1992 and GenPharm International, Inc. S-1 filed February 1994.

[25] The designation after HuMAb refers to the antigen that GenPharm was focusing on for the particular indication. EL-1 and EL-2 refer to antigens that were covered by the company's collaboration with Eli Lilly.

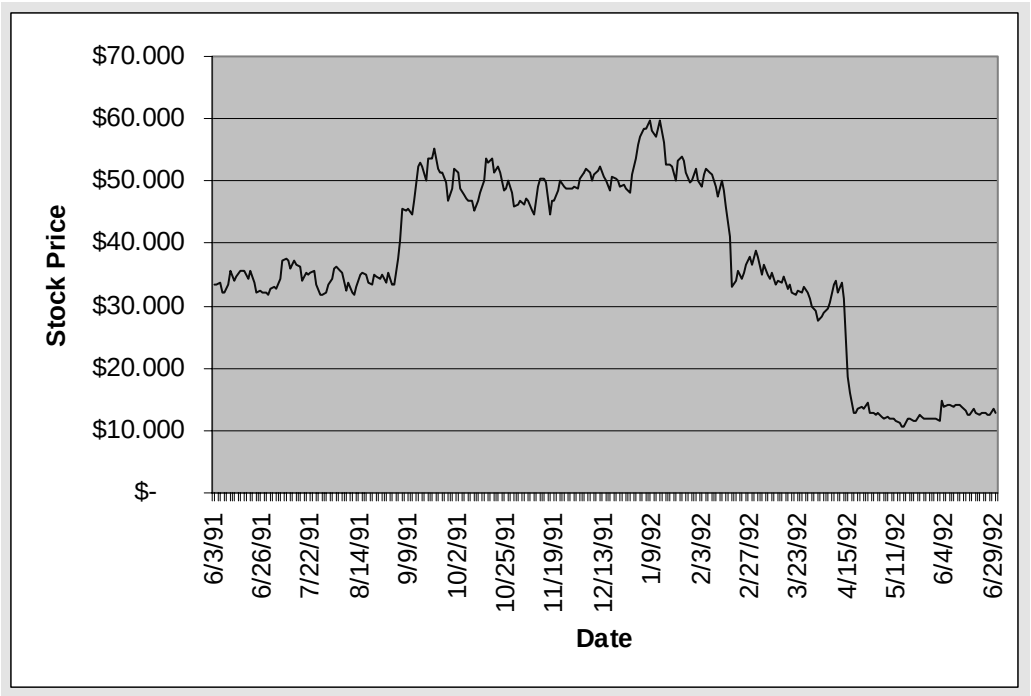
Exhibit 10
GenPharm's Process for Developing Transgenic Dairy Cattle



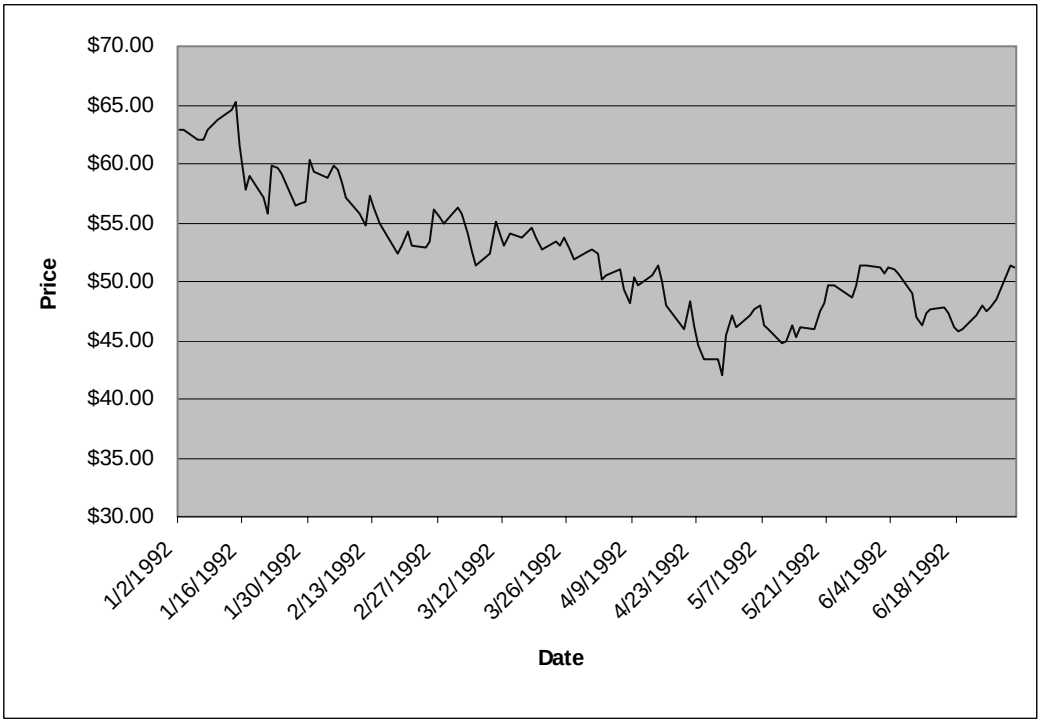
Source: GenPharm International, Inc. Prospectus filed February 12, 1992

Exhibit 11
Centocor Stock Price & Biotechnology Sector Index

Centocor Stock Price (June 1991 – June 1992)



Standard & Poor's Biotechnology Stock Price Index (January 1, 1992 – June 30, 1992)



Source: Standard & Poor's Security Price Index Record, 1998 Edition

Exhibit 12
GenPharm International, Inc. Income Statements
1989 - 1996
($ thousands)

	Inception to 12/31								
	1989	1990	1990	1991	1992	1993	1994	1995	1996
Revenues									
Contract revenue									
Total revenue	$ 840	$ 1,662	$ 822	$ 2,064	$ 1,573	$ 5,616	$ 7,147	$ 2,660	$ 6,141
Costs and expenses									
Research and development	$ 1,202	$ 4,204	$ 3,002	$ 4,157	$ 5,941	$ 9,732	$ 12,209	$ 3,794	$ 2,373
General and administrative	$ 1,030	$ 2,471	$ 1,441	$ 1,831	$ 3,376	$ 2,866	$ 4,409	$ 984	$ 634
Litigation fees and costs								$ 2,838	$ 611
Restructuring charge								$ 2,890	
Total cost and expenses	$ 2,232	$ 6,675	$ 4,443	$ 5,988	$ 9,317	$ 12,598	$ 16,618	$ 10,506	$ 3,618
Loss from operations	$ (1,392)	$ (5,013)	$ (3,621)	$ (3,924)	$ (7,744)	$ (6,982)	$ (9,471)	$ (7,846)	$ 2,523
Other income (expense)									
Gain from sale of animal model business								$ 991	
Interest income	$ 22	$ 629	$ 409	$ 365	$ 672	$ 434	$ 205	$ 84	$ 46
Interest expense	$ (1)	$ (62)	$ (61)	$ (172)	$ (219)	$ (501)	$ (620)	$ (307)	$ (112)
Other income (expense), net									$ (21)
Total other income (expense)	$ 21	$ 567	$ 348	$ 193	$ 453	$ (67)	$ (415)	$ 768	$ (87)
Income (loss) from continuing operations	$ (1,371)	$ (4,446)	$ (3,273)	$ (3,731)	$ (7,291)	$ (7,049)	$ (9,886)	$ (7,078)	$ 2,436
Discontinued operations - loss from operations from Pharming B.V.								$ (2,723)	
Income (loss) before income taxes	$ (1,371)	$ (4,446)	$ (3,273)	$ (3,731)	$ (7,291)	$ (7,049)	$ (9,886)	$ (9,801)	$ 2,436
Provision for income taxes									$ 45
Net income (loss)	$ (1,371)	$ (4,446)	$ (3,273)	$ (3,731)	$ (7,291)	$ (7,049)	$ (9,886)	$ (9,801)	$ 2,391

Source: GenPharm International, Inc. Consolidated Financial Statements for: 1) Years ended December 31, 1990 and for the periods from inception (January 7, 1988) to December 31, 1989 and 1990; 2) Years ended December 31, 1990, 1991 and 1992; 3) Years ended December 31, 1991, 1992 and 1993; 4) Years ended December 31, 1992, 1993 and 1994; and 4) Years ended December 31, 1996 and 1995.

Exhibit 13
GenPharm International, Inc. Balance Sheets
1989 – 1996
($ thousands)

	1989	1990	1991	1992	1993	1994	1995	1996
Assets								
Current assets								
Cash and cash equivalents	$5,495	$2,323	$5,258	$5,787	$4,635	$5,208	$459	$1,971
Short-term investments	$0	$4,521	$10,194	$8,233	$3,845			
Contract receivables	$98	$890	$11	$108	$348	$989	$15	
Other current assets	$48	$29	$150	$882	$432	$370	$163	$192
Total current assets	$5,641	$7,763	$15,613	$15,010	$9,260	$6,567	$637	$2,163
Property and equipment, net	$447	$1,177	$1,532	$5,423	$6,077	$6,459	$249	$200
Investment in Pharming B.V.							$60	
Patents							$481	
Other assets, net	$7	$256	$525	$1,207	$1,374	$1,258	$541	$0
Total Assets	**$6,095**	**$9,196**	**$17,670**	**$21,640**	**$16,711**	**$14,284**	**$1,427**	**$2,363**
Liabilities and Shareholders Equity								
Liabilities:								
Current liabilities								
Accounts payable	$461	$461	$647	$856	$1,401	$1,583	$198	$277
Construction payable				$1,190				
Accrued liabilities	$77	$503	$122	$227	$233	$370	$179	$75
Accrued litigation fees and costs							$1,698	$595
Deferred revenue	$0	$594	$391		$683	$488	$752	$487
Capital lease obligations/current portion of capital lease obligations	$15	$247	$348	$1,560	$2,123	$3,185	$58	$9
Current portion of long-term debt							$327	$654
Total current liabilities	$553	$1,805	$1,508	$3,833	$4,440	$5,626	$3,212	$2,097
Long-term portion of capital lease obligations	$35	$1,083	$1,149	$4,244	$3,355	$1,466		
Long-term debt							$354	
Deferred rent					$254	$458		
Shareholders Equity:								
Convertible preferred stock, no par value	$6,650	$10,716	$22,701	$27,802	$30,095	$37,913	$39,838	$39,838
Common stock, no par value	$47	$50	$738	$814	$863	$876	$227	$241
Loans to shareholders	($17)	($12)	($405)					
Deficit accumulated during the development stage	($1,173)	($4,446)	($8,177)	($15,468)	($22,517)	($32,403)	($42,204)	($39,813)
Accumulated translation adjustment			$156	$415	$221	$348		
Total shareholders equity	$5,507	$6,308	$15,013	$13,563	$8,662	$6,734	($2,139)	$266
Total Liabilities and Shareholders Equity	**$6,095**	**$9,196**	**$17,670**	**$21,640**	**$16,711**	**$14,284**	**$1,073**	**$2,363**

Source: GenPharm International, Inc. Consolidated Financial Statements for: 1) Years ended December 31, 1990 and for the periods from inception (January 7, 1988) to December 31, 1989 and 1990; 2) Years ended December 31, 1990, 1991 and 1992; 3) Years ended December 31, 1991, 1992 and 1993; 4) Years ended December 31, 1992, 1993 and 1994; and 4) Years ended December 31, 1996 and 1995.

Exhibit 14
GenPharm International, Inc. Patents

U.S. Patent Number	Issue Date	Description
5,175,384	December 1992	Covers a version of the transgenic immunodeficient (TIM™) mice under development at GenPharm as improved recipients of human immune tissue and for immunology research.
5,174,986	December 1992	Covers the use of GenPharm's PIM® for carcinogenicity testing.
5,304,489	April 1994	"DNA Sequences to Target Proteins to the Mammary Gland for Efficient Secretion" discloses fundamental technology based on casein promoters. These promoters are widely used for the production of therapeutic proteins, especially human proteins, in the milk of transgenic animals. The patented claims cover the production of any protein using this type of promoter.
4,873,316	Acquired from Biogen, Inc. in January 1995	GenePharming acquired this patent and corresponding U.S. and international patent filings. The patented claims cover processes for producing proteins in the milk of transgenic animals using casein promoters. These promoters are widely used for mammary gland-specific, high-level production of biomedical proteins.
5,464,764	November 1995 (Licenses)	Gene targeting technology based on homologous recombination that allows precise modifications to be made in the mammalian genome. This patent covers methods and materials for using this technology in mouse embryonic stem cells (ES cells)
5,545,806	October 1996	Covers methods of producing human antibodies using transgenic mice that contain human antibody genes. These unrearranged human antibody genes rearrange to form fully human antibodies in the transgenic mice. These antibodies then undergo class switching and somatic mutation in these transgenic mice to form high affinity fully human antibodies.
5,569,825	October 1996	Covers the transgenic mice described immediately above.
5,591,669	January 1997	Covers transgenic mice whose antibody genes have been inactivated.

Source: GenPharm International, Inc. press releases

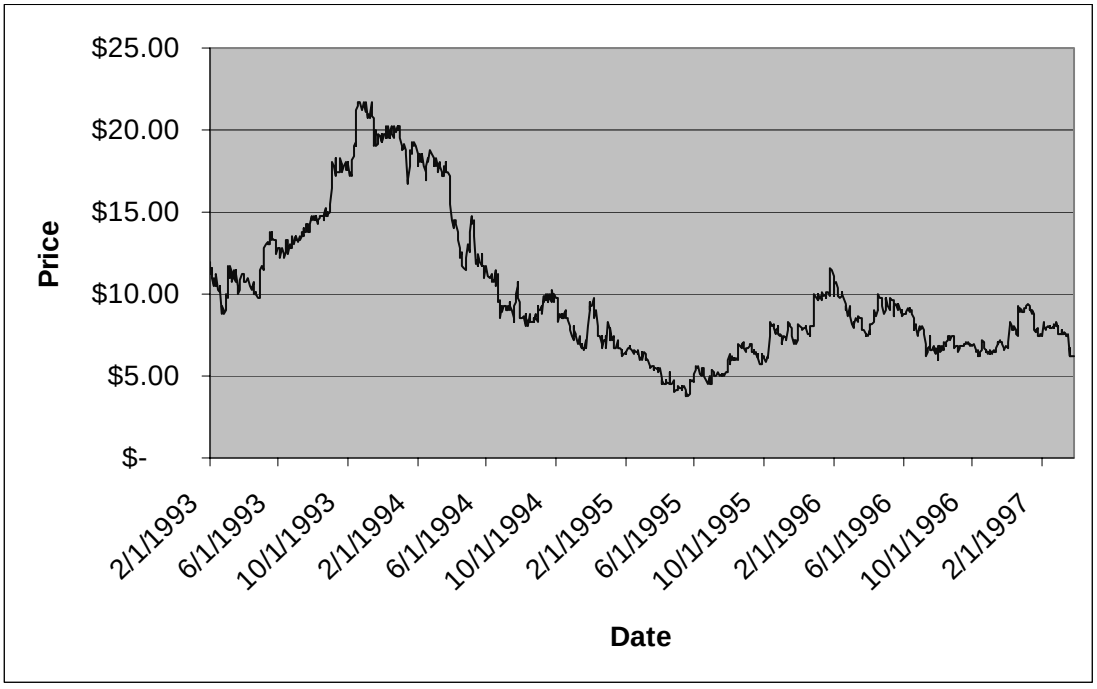
Exhibit 15
Profile of Cell Genesys, Inc.
March 1997

Excerpt from Cell Genesys Press Release on March 27, 1997:

"Abgenix, a subsidiary of Cell Genesys, is focused on the development and commercialization of antibodies to treat a wide range of serious diseases, including transplantation-associated conditions, inflammation, autoimmune disorders and cancer. The company has developed novel strains of transgenic mice that are capable of generating fully human antibodies.

Cell Genesys is focused on the development and commercialization of *ex vivo* and *in vivo* gene therapies to treat major, life-threatening diseases and disorders. The company's AIDS gene therapy is in Phase II human clinical testing and is being developed through a worldwide collaboration with Hoechst Marion Roussel, Inc. Cancer gene therapy, for which Cell Genesys currently has worldwide rights, is in preclinical testing for colon, ovarian and other specific types of cancer. These and other gene therapy programs utilize proprietary, engineered genes and gene delivery systems. The company's assets outside of gene therapy include its Abgenix, Inc. subsidiary, as well as the company's licensing program in gene activation technology."

Cell Genesys Stock Price (February 1, 1993 – March 30, 1997)



Source: Cell Genesys, Inc. press release, March 27, 1997 and Yahoo! Finance.

Exhibit 16
Documents Describing the Lawsuit Filed by
Cell Genesys, Inc. against GenPharm International, Inc.

1. Press Release Issued by Cell Genesys on February 1, 1994

CELL GENESYS FILES SUIT AGAINST GENPHARM INTERNATIONAL FOR MISAPPROPRIATION OF HUMAN MONOCLONAL ANTIBODY TECHNOLOGY

FOSTER CITY, Calif., February 1, 1994 – Cell Genesys, Inc. (NASDAQ: CEGE) announced today that it has filed a lawsuit against GenPharm International, Inc. alleging that GenPharm and its agents misappropriated Cell Genesys' proprietary technology used to develop novel strains of mice which produce human antibodies and that GenPharm unlawfully filed patent applications covering this technology. Cell Genesys is seeking actual and punitive damages as well as a declaration that it is the true owner of the invention described in the GenPharm patent application. The complaint was filed today in Superior Court for the State of California, Santa Clara County.

Cell Genesys filed a U.S. patent application covering this technology on January 12, 1990 and GenPharm filed a U.S. patent application on the same technology on August 29, 1990. Cell Genesys filed an international patent application on this technology on January 11, 1991 and GenPharm filed an international application on the same technology on August 28, 1991.

Cell Genesys is a leader in the application of gene targeting technology to the development of human therapeutic healthcare products. Gene targeting is a cellular genetic engineering technology which enables precise and permanent activation, inactivation, and replacement of specific genes in living cells. The company is applying gene targeting and related technologies to develop products in three areas: universal cell transplant products, human protein products and human monoclonal antibody products.

Source: http://www.cellgenesys.com/investor/press/prDisplay.cfm?pr+00ED702400008D0A

2. Excerpt from Biotechnology Information Institute, "Dispute Over Human Monoclonal Antibody Technology," July 1, 1994.

"Cell Genesys has brought a suit in federal court claiming that 'GenPharm knowingly received and used information from a scientific advisor alleged to have been previously given the information in confidence by Cell Genesys'… Cell Genesys is seeking 'ownership of certain GenPharm patent applications to the extent that they incorporate the information and invention claimed to belong to Cell Genesys; or in the alternative, that reference to such be struck from the patent applications.' The suit seeks preliminary and permanent injunctive relief, actual and punitive damages, and an accounting of profits claimed to have arisen from the activities alleged to haven been wrongful."

Exhibit 17
Memo from Jonathan MacQuitty to GenPharm International Employees
April 14, 1995

To: GenPharm Employees
From: Jonathan MacQuitty
Date: April 14, 1995
Re: Future for GPI

This has not been a good week. At Scotgen's most recent Board Meeting, the decision was taken for Scotgen to cease operations. This was somewhat of a surprise to us and, although there is still the possibility of a merger, it has helped to dampen enthusiasm for this consolidation amongst our prospective new investors.

As a result of the above, we are now down to only two prospective investors, with a growing risk that they too will decline. We will then be out of options to continue the company.

We have a Board Meeting on April 27 and have given this deadline to potential suitors. If we do not have any concrete proposals, it is likely that the decision will be made at the Board Meeting to cease operations in early May, indeed, even May 1. The severance payments which have been segregated would be paid out May 1.

It is difficult to predict what will happen over the next two weeks. Events keep changing from day to day. However, I think employees should understand that there is a significant probability that a decision will be made to cease operating early next month.

JJM/kde

Exhibit 18
Profile of Scotgen Ltd.

Scotgen Ltd. was founded in 1987 by Mr. A. J. Gray, (Chairman), Prof. Bill Harris,(Managing and Research Director), and Mr P Williams (Finance Director), and located in the research laboratories of Professor Harris, Professor of Genetics in the University of Aberdeen, Scotland. The Company was financed by seed funding from the Founders, Aberdeen University Research and Innovation Services, and a loan from the Scottish Development Agency.
Scotgen's technology was based on the core technologies of humanization of antibodies to provide human therapeutics and DNA probe technologies for detection of micro-organisms in the environment.

Technologies

Humanisation was developed by Greg Winter at the U.K. Medical Research Council Laboratories in Cambridge and involves CDR grafting, the transfer of the antigen binding domains of a murine antibody into a human framework to create an antibody which retains the affinity and specificity of the original murine antibody but is mostly of human genetic information and hence less immunogenic. Scotgen licensed the "Winter" technology and developed its own patented method of humanization: Fixed Framework / Minimal Modification. Scotgen also patented the use of human germ line frameworks and a method of modifying effector function activities.

DNA probe based diagnostics to detect environmental pathogens were based upon the provision of dipstick spot tests and multiplex PCR methodologies.

Scientific Advisors. One of the most prestigious including Prof. A. Fersht, FRS, Prof. D. Sherratt FRS, Prof. D. Lane, FRS, Prof. H. Waldmann, FRS Dr. G. Winter, FRS.

Source: http://business.fortunecity.com/ingram/390/index.html

Exhibit 19
Profile of Medarex, Inc.

1. Description of Medarex, Inc., March 1997

Medarex, Inc. was a biotechnology company developing therapeutic products for cancer, AIDS and other life-threatening diseases based on proprietary technology in the field of immunology. Medarex's products were designed either to enhance and direct a specific immune response or to block or diminish an undesirable immunological activity. The company's broad technology platform led to several products being in clinical trials and to three strategic alliances and had the potential to provide the foundation for new products and new strategic alliances in various therapeutic areas. As of March 1997, the company had six products in twelve human clinical trials for the treatment of breast cancer, prostate cancer, head and neck cancer and a variety of other solid tumor cancers, leukemia, AIDS and certain autoimmune conditions. The company was developing three of its products through strategic alliances with Novartis Inc., of Basel Switzerland, Merck KGaA, of Darmstadt, Germany, and Centeon, L.L.C., of King of Prussia, Pennsylvania.

As of March 1997, the company had several products in clinical trials:

- In April 1996, Medarex entered into a strategic alliance with Centeon for the development of MDX-33 for the treatment of autoimmune hematological disorders. Pursuant to the collaboration, Centeon licensed MDX-33, the company's monoclonal antibody therapeutic used in down-regulating parts of the immune system, on a worldwide basis for diseases like Idiopathic Thrombocytopenia Purpura (ITP). MDX-33 was in **Phase I** clinical trials.

- In May 1995, Medarex entered into a strategic alliance with Novartis pursuant to which Novartis obtained a worldwide exclusive license to MDX-210, the company's biospecific therapeutic for tumors that overexpressed an antigen known as HER-2. These tumors included a significant number of breast, ovarian, prostate and other tumors. MDX-210 was in **Phase II** clinical trials.

- In 1994, Medarex entered into a collaborative arrangement with E. Merck pursuant to which the company was developing MDX-447 for the treatment of cancers that overexpressed the epidermal growth factor receptor (EGF-R). Cancers in which EGF-R was overexpressed included head and neck, breast, brain, non-small cell lung and bladder tumors. MDX-447 was in **Phase I/II** clinical trials.

- On February 28, 1997, Medarex acquired Houston Biotechnology Incorporated (Houston). In accordance with the terms of the Merger Agreement, Houston became a wholly-owned subsidiary of Medarex. Houston was developing monoclonal and other biopharmaceutical products to prevent secondary cataracts and to treat glaucoma, disorders that impair or destroy human vision. In December 1995, Houston entered into a strategic alliance with Santen Pharmaceutical Co. Ltd. for the development of MDX-RA to prevent the formation of secondary cataracts. Pursuant to the collaboration, Santen obtained the exclusive marketing rights of MDX-RA in Japan. MDX-RA was in **Phase II** clinical trials.

Source: Medarex, Inc. 10-K filed March 27, 1997.

Exhibit 19 (Continued)
Profile of Medarex, Inc.

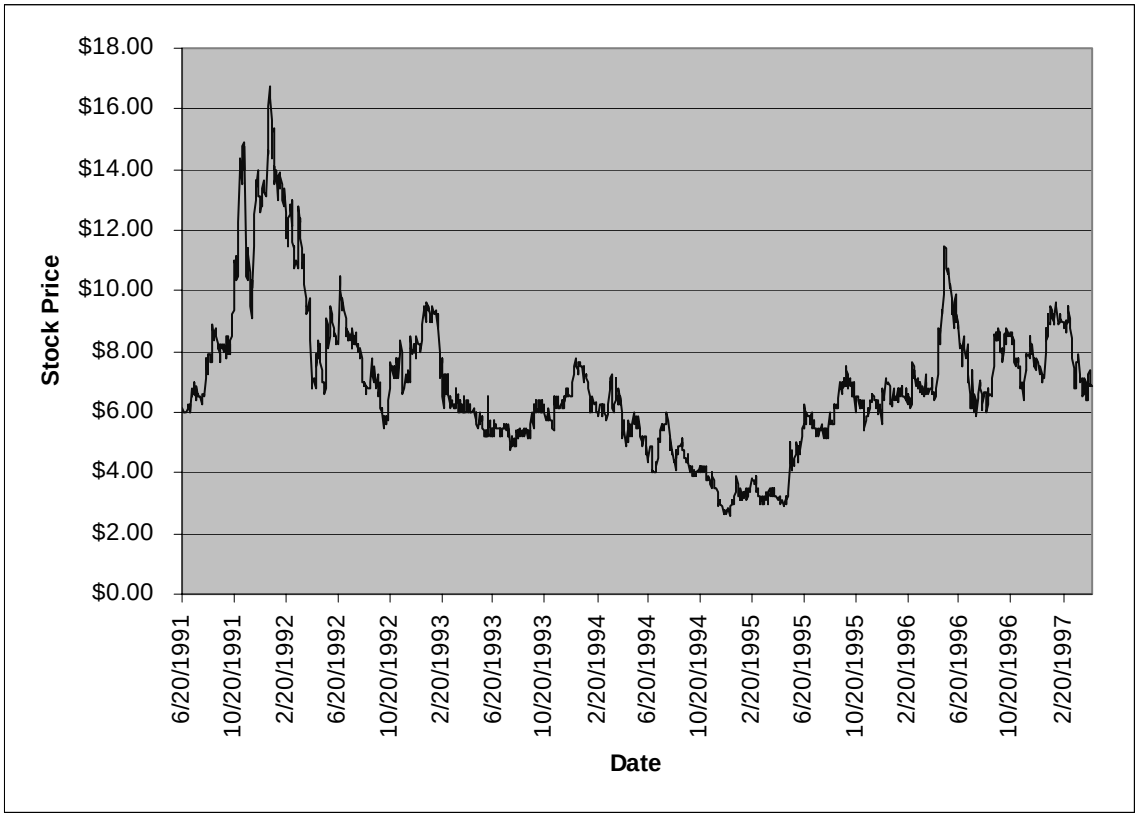
Medarex Summary Historical Consolidated Financial Information

	Year Ended December 31,				
Statement of Operations Data:	**1992**	**1993**	**1994**	**1995**	**1996**
Revenues:					
Sales	$365	$406	$378	$312	$255
Contract & license revenues	--	--	200	1,467	1,626
Total revenues	$365	$406	$578	$1,778	$1,881
Costs and Expenses:					
Cost of sales	$66	$82	$91	$123	$132
Research & development	2,531	3,798	5,905	6,442	7,596
General & administrative	2,165	2,361	2,154	2,275	2,558
Acquisition of in-process technology	--	--	--	--	--
Operating loss	($4,396)	($5,834)	($7,573)	($7,062)	($8,405)
Interest & dividend income	399	419	337	553	1,537
Net loss	($3,997)	($5,415)	($7,236)	($6,509)	($6,868)
Net loss per share	($0.79)	($0.86)	($1.00)	($0.69)	($0.45)
Weighted avg. common shares outstanding	5,049	6,304	7,269	9,457	15,289
Balance Sheet Data:					
Cash, cash equivalents and marketable securities	$15,938	$9,687	$9,434	$15,729	$31,463
Working capital	15,918	8,330	8,017	14,549	31,259
Total assets	16,943	12,640	13,017	19,240	36,044
Long term obligations	--	78	60	40	110
Accumulated deficit	(5,462)	(10,877)	(18,113)	(24,623)	(31,491)
Total stockholders' equity	16,603	10,943	11,097	17,375	34,648

Source: Medarex, Inc. 10-K filed March 27, 1997

Exhibit 19 (Continued)
Profile of Medarex, Inc.

Medarex Historical Stock Price
June 20, 1991 – April 28, 1997



Notes:
1. Medarex went public in June 1991.
2. There was a 2:1 stock split in 2001.

Source: Yahoo! Finance

Exhibit 20
Number of Medarex Shares to Be Granted to GenPharm Shareholders at Various MEDX Stock Prices

Assuming a $65 million acquisition price and an average of 17,963,137 Medarex (MEDX) shares outstanding in April 1997, the number of Medarex shares to be received by GenPharm shareholders would vary as follows, as the Medarex stock price fluctuated:

MEDX Stock Price	Number of MEDX Shares to GenPharm Shareholders
$3.00	21,666,666 shares
$4.00	16,250,000 shares
$5.00	13,000,000 shares
$6.00	10,833,333 shares
$7.00	9,285,714 shares
$8.00	8,125,000 shares
$9.00	7,222,222 shares

Exhibit 21
Beneficial Ownership of GenPharm International Stock
1997

Beneficial Owner	Shares of GenPharm Common Stock Beneficially Owned		Shares of GenPharm Preferred Stock Beneficially Owned	
	Number	Percent	Number	Percent
Entities associated with:				
Institutional Venture Partners	10,000	*	1,946,658	13.5%
Genencor, Inc.	3,125	*	800,000	5.5%
Entities associated with:				
Delphi Ventures L.P.	--	--	1,090,433	7.6%
Kleiner, Perkins, Caufield & Byers	9,906	*	929,640	6.4%
Entities associated with:				
Atlas Venture	10,000	*	1,008,162	7.0%
Biotechnology Venture Fund SA	10,000	*	927,433	6.4%
Euroventures Benelux II B.V.	--	--	773,218	5.4%
Paine Webber R&D Partners III	--	--	1,000,000	6.95
Samuel Colella	10,000	*	1,946,658	13.5%
Herman de Boer	176,937	9.1%	--	--
Michiel A. deHaan	10,000	*	1,008,162	7.0%
Sang Hc Lee	96,738	5.0%	--	--
Herbert Heyneker	20,000	1.0%	53,333	*
Robert M. Kay	150,155	7.7%	--	--
Thomas Kiley	182,500	9.1%	28,571	*
David Leathers	10,000	*	927,433	6.4%
Nils Lonberg	126,165	6.5%	--	--
Jonathan J. MacQuitty	485,825	25.0%	2,660	*
Edmund Olivier	20,000	1.0%	48,951	*
Carl Peck	10,000	*	--	--
All current directors & executive officers as a group (8 persons)	748,325	38.5%	4,015,768	27.8%

* Less than one percent
Percentage ownership calculations are based on 1,944,062 shares of GenPharm Common Stock and 14, 433,568 of GenPharm Preferred Stock.

Source: Medarex, Inc. and GenPharm International, Inc. Prospectus/Consent Solicitation Statement, September 25, 1997

Exhibit 22
Selected Technical Terms

Bovine	Derived from a cow.
Casein promoters	DNA sequences isolated from a casein gene. These sequences direct expression of proteins to milk.
Gene construct	DNA molecule that has been experimentally modified so that it encodes the production of a desired product in a selected tissue (e.g. the mammary gland).
Gene	Piece of genetic information (consisting of DNA) encoding a protein.
Genetic founder	First generation transgenic animal.
In vitro	Outside a living organism (often used for experiments that are performed in test tubes).
In vivo	Inside a living organism (often used for experiments that are used in animals or humans).
Nutraceutical	Food or food supplement designed to deliver specific health benefits.
Production herd	Group of production animals.
Production founder	Parent of production animal.
Protein	Primary gene product (consisting of amino acids). Proteins play important roles in many physiological functions of the human body.
Transgene	Gene construct that is used in transgenic animals.
Transgenic animal	Animal containing an extra piece of genetic information (i.e. gene construct), which has been artificially inserted.

Source: Pharming Group N.V. Final Prospectus dated July 1, 1998.