



Cases in Strategic-Systems Auditing

IDEC Pharmaceuticals Corporation

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This case was developed under a grant from the KPMG/University of Illinois Business Measurement Case Development & Research Program. Cases developed under this program and other program information can be obtained from the Web site www.cba.uiuc.edu/kpmg-uiuc/.

Introduction

Many companies in the biotech industry have demonstrated great promise only to fail later because they were unable to bring products to market. Amidst the fallout from the failed or underperforming biotech companies are the dashed hopes of disease victims waiting for miracle drugs, shareholders who lost large investments, and class action lawsuits that named corporations, their executives, and their auditors as defendants when stock prices dropped. Of the approximately 1,200 biotech companies in existence at the end of 1998, only about a dozen are profitable (*Individual Investor*, Nov. 1998), including industry behemoths such as Amgen, Biogen, Chiron, and Genentech. Among those companies now reporting profits is IDEC Pharmaceutical Corporation (IDEC).

Between 1992 and 1994, the NASDAQ biotech index dropped by 70%, taking IDEC along with it. At one point in 1994, IDEC had less than six months of cash reserves and its stock traded around \$2 per share, a mere 14.2% of its IPO value three years earlier. The tight cash position made IDEC's future as an independent company uncertain. Those days are now well behind IDEC, with ample cash flow, growing earnings, close to \$200 million in cash on the balance sheet, a blockbuster drug on the market, and a host of other drugs in the pipeline. Why is IDEC able to succeed where others fail? What is required to be successful in the biotech industry? How do business risks in the biotech industry impact audit risk, and how should an auditor go about assessing these risks and related controls? This case challenges students to consider these as well as other related issues, while concurrently introducing students to the biotechnology and pharmaceutical industries.

The Pharmaceutical and Biotechnology Industries¹

Firms in the pharmaceutical industry undertake R&D, manufacturing, and marketing activities to provide drugs, treatments, and medical products for both research and commercial purposes. This industry is large and fast growing, both in the United States and worldwide. Sales for the U.S. industry grew from \$31.6 billion in 1985 to over \$120 billion in 1998. Worldwide sales of pharmaceutical products were \$310 billion in 1998, a 6% increase over 1997. The growth of this industry is fueled in part by the increase in the number of older persons who have greater demand for prescription drugs.

¹ The information for this section was compiled from a variety of sources, most notably <http://www.hoovers.com/features/industry/pharm.html> and from the PhRMA Website: <http://www.phrma.org/publications/industry/profile98/figlist.html>, and <http://www.phrma.org/facts/bkgmndr/corporate.html>.

Biotechnology is the use of living organisms or biological substances to discover or produce therapeutic remedies, such as drugs. *Pharmaceutics* is the science of preparing and dispensing drugs. A pure biotech company engages primarily in research and development, hoping to discover breakthrough therapies that address unmet medical needs. A pure pharmaceutical company engages primarily in the commercialization (i.e., manufacturing, marketing, sales) of drugs (technically speaking, they are small molecule-chemical compounds) that were developed by its own research program or acquired from other biotech companies. Many firms, including IDEC, are called *biopharmaceutical* firms because they demonstrate characteristics of both pure biotech firms (e.g., extensive R&D) and pure pharmaceutical firms (e.g., commercialization).

Pharmaceutical markets can be divided into ethical drugs and over-the-counter (OTC) drugs. Ethical drugs are prescription drugs that can be branded or generic. Although some larger pharmaceutical companies have divisions operating in all three markets (ethical-branded, ethical-generic, and OTC), many companies operate in only one of these markets. The products produced by companies operating in the ethical-branded drug market are: (1) derived from extensive R&D efforts, (2) usually protected by patents, and (3) available to consumers only by doctors' prescription.² Companies that produce ethical-generic drugs (1) produce products that are no longer protected by patent, (2) spend limited resources on R&D, and (3) compete almost entirely on price. Pharmaceutical firms producing OTC products market their products directly to consumers, as OTC drugs can be sold without prescriptions. In the past, ethical products have been marketed primarily to doctors, hospitals, and HMO's, but this practice is changing. Many firms now include patients, or end-users, in their marketing strategies and attempt to establish brand awareness for their ethical products to prompt patients to request branded drugs from their doctors. According to Scott Levin, a marketing research firm, advertising expenditure for prescription drugs directed at consumers increased from \$163 million in 1993 to over \$1.3 billion in 1998.³

Sales of branded drugs in the United States were about \$72 billion in 1997 and sales of generics totaled \$10 billion. Although sales of generics in the United States were only about 14% of total sales for branded drugs in 1997, generics represent 46.5% of all prescriptions issued by doctors. The disparity is a result of the significantly lower prices of the generics.

The prescription drug market is somewhat concentrated and intensely competitive. According to the 1998 Standard and Poor Industry Surveys, the 10 largest companies accounted for about 53% of 1997 U.S. retail sales in the ethical drug market. The leading companies and their respective

² IDEC would be classified as an ethical company, producing, with its partners, brand name prescription drugs.

³ "Healthcare: Pharmaceuticals" *Standard & Poor's Industry Survey* 1998.

shares of the U.S. market are as follows: Bristol-Myers Squibb, 6.1%; Glaxo Wellcome, 6.0%; Johnson & Johnson, 6.0%; Merck, 6.0%; American Home Products, 5.8%; Pfizer, 5.3%; Eli Lilly, 4.7%; SmithKline Beecham, 4.3%; Novartis, 4.3%; Schering Plough, 4.0%.

Developing new drugs is costly and time consuming. Taking a single drug from discovery to commercialization can cost as much as \$500 million⁴ and take as many as 15 years. Exhibit 1 provides an overview of the drug discovery and FDA approval process. In 1978 pharmaceutical firms devoted 10.9% of their revenue to R&D. In 1998, this percentage rose to about 19.6% (about \$20.6 billion). The ratio of R&D to sales for the pharmaceutical industry is greater than all other major industry sectors. For example, in the aerospace and defense industry, which is scientific and exploratory in nature, R&D is approximately 4% of sales.

Well-established biotech and pharmaceutical giants like Amgen and Merck & Co, with multiple products on the market and in the pipeline, may be able to overcome an expensive development process that does not result in the successful commercialization of every drug. However, fledgling biotechs and even firms like IDEC that are no longer considered “fledgling” do not have this luxury. To survive in the biopharmaceutical industry, firms need a sound strategy, advanced technology, competent and talented scientists, and innovative managers who must effectively execute the firm’s business processes and control risks. Successful firms consistently demonstrate the ability to navigate the complex FDA approval process, protect property rights for discoveries, negotiate and maintain alliances with key business partners, provide incentives and a work environment that will attract the best scientists, and adapt to a changing system for providing health care services.

“Biotech has one of the highest [cash] burn rates of any industry,” says Meg Malloy, senior biotechnology analyst for Hambrecht&Quist in San Francisco.⁵ This cash burn feature, along with the long lead times to develop drugs, has put great stress on firms in the industry. For example, in 1998 Techniclone Corporation sold its headquarters and cut its workforce by 30% to raise funds and reduce costs.⁶ Such challenges are not unusual for smaller biopharmaceutical firms because of the uncertainty and high risk inherent in this industry. As illustrated in exhibit 1, as many as 5,000 compounds must be evaluated to get five drugs to start clinical trials, with the goal of one of these five drugs successfully completing clinical trials. Risks associated with the discovery of new drugs are great as evidenced by the fact that less than one-third of pharmaceutical companies recoup their R&D investment.

⁴ Boston Consulting Group, January 1996.

⁵ “Out of Control: You’ve never seen burn rates like this,” *Forbes*, 5/31/99.

⁶ *Biomedical Market Newsletter* 07/31/98 and <http://www.pathfinder.com/money/latest/press/BU/1998Jul28/427.html>.

Capital markets are notoriously wary of the risks associated with developing new drugs. Smaller start-up firms in the industry typically do not possess the resources and competencies required to bring a drug to the commercialization stage. To acquire the large amount of funds and other resources and competencies needed to discover and successfully develop drugs over a lengthy development process, many companies must supplement the capital they raise through the sale of stock and/or issuance of debt by obtaining additional resources from larger biotech and pharmaceutical firms. Such resources can include licensing fees, royalties, research collaborations that include large milestone payments, expertise (human capital), and infrastructure (manufacturing facilities, distribution channels, etc.). To succeed, smaller firms must effectively share with other industry participants the rewards and the considerable risks associated with drug discovery.

Business combinations, such as mergers and acquisitions, formed among pharmaceutical firms often make headlines in the news. Within the U.S. pharmaceutical industry in 1996 alone there were 27 business combinations valued at \$9.4 billion. In addition, in 1996 there were 16 U.S.-Non-U.S. business combinations valued at \$1.9 billion. Many combinations are motivated by economies of scale, and others are motivated by a desire to achieve product mix diversification, particularly when a firm depends heavily on only one or two drugs for the bulk of its sales. Others combinations may occur when a firm is about to lose patent protection on its flagship drug.⁷ An alternative to mergers and acquisitions is the formation of strategic alliances with other companies. Similar to business combinations, strategic alliances offer firms a means to obtain required new competencies and processes, diversify their portfolio of products, off-load risk, and increase the probability of future viability and profitability. In 1986, there were 121 alliances formed among companies in the pharmaceutical industry. By 1997, the number of alliances increased to 635. This form of corporate partnering enables firms to maintain their separate corporate identities, ownership, and control, while acquiring needed additional resources, seizing new product and market opportunities, and mitigating business risks in ways that might not otherwise be possible.

Protecting intellectual property rights of drug discoveries is critical for firms to recoup the enormous costs of drug discovery. If drugs are not protected from illegal production and sale, the profitability of branded drugs will significantly decrease. In the United States, drugs are patented for 20 years from the patent filing. Consequently, the patent clock may be ticking even before any clinical trials begin. Because of the lengthy processes of developing a drug and obtaining FDA approval, the effective life of a patent is often reduced to 10-12 years. Thus, the time firms have to

⁷ In 1995, for example, Glaxo Holdings foresaw problems with the pending July 1997 expiration of its Zantac patent and acquired Wellcome to form Glaxo Wellcome.

recoup the hundreds of millions that it costs to bring a drug to market is rather short. Once a generic copy of a drug becomes available, the brand name drug is almost assured of losing significant market share. For example, in July 1997, patent protection for Glaxo's Zantac expired. Zantac sales fell 30%, from \$3 billion in 1996 to \$2.1 billion in 1997, and were expected to decline by another 50% in 1998.⁸ Companies whose patents are approaching expiration may try various tactics to extend the life of the patent and thus delay approval of generics.⁹ For example, companies may make slight modifications to the drug, thus extending the legally protected life of the drug.

Although the ultimate users of drugs are the patients and many drug companies now include patients in their marketing strategies, patients have little or no control over purchasing decisions. Patients rely on the doctor to seek the best course of treatment and on health insurance or the government (i.e. Medicare) to pay for drugs. In most developed countries, except the U.S., the government covers most of the costs of healthcare, including prescription drugs. In the U.S., however, the majority of healthcare costs, including prescription drugs, are funded and managed through the private sector by insurance companies and managed care organizations such as health maintenance organizations (HMOs) and pharmacy-benefit managers (PBMs). HMOs are large, powerful group health care practices that provide health maintenance and treatment services to its enrolled patients who prepay a fixed periodic fee without regard to the amount or kind of services rendered. PBMs process benefit claims, sell drugs by mail, and negotiate pricing with drug firms.

Managed care providers promote the use of generics and seek large discounts from ethical pharmaceutical companies for bulk purchases. Typically, managed care providers influence the drugs their members use by developing and monitoring formularies.¹⁰ Formularies are lists of drugs that doctors in a managed care plan can prescribe. Pharmaceutical firms seek to ensure that their drugs are included on HMO formularies to increase or maintain sales. However this practice often results in lower profit margins for the pharmaceutical firms. The rise in managed care has also helped to accelerate the switch from brand-name drugs to generic brands by many physicians. In the United States, PBMs managed approximately 35% of all retail prescriptions in 1996.¹¹ To capitalize on these trends, many pharmaceutical firms attempt to control their distribution channels. Merck, Eli Lilly, and SmithKline Beecham¹² have purchased PBM companies, with varying degrees of success, to strengthen their ability to market their products to customers. This

⁸ "Healthcare: Pharmaceuticals" *Standard & Poor's Industry Survey*, 1998.

⁹ "New Teeth for Old Patents." *Business Week*, 11/30/98.

¹⁰ See "National drug formularies" *Pharmaceutical Executive*, April 1999.

¹¹ "Healthcare: Pharmaceuticals" *Standard & Poor's Industry Survey*, 1998.

¹² SmithKline Beecham decided to sell its PBM to Express Scripts, Inc., in order to focus on its pharmaceuticals and consumer healthcare business. See more detail in "SmithKline Beecham Completes Sale of Diversified to Express Scripts," *PRNewswire* 4/1/99.

has resulted in a more vertically integrated structure from drug development to marketing, distribution, and ultimately claims processing. Overall, the ability of managed care organizations to promote the use of generics and negotiate discounts on ethical drugs erodes profit margins within U.S. ethical pharmaceutical sales.

Drug manufacturers have concerns about the costs of potential liabilities for drugs that result in a reduction in patient wellbeing. Drugs can have unintended consequences even when companies have taken great care in the development processes and the FDA has approved the drug.¹³ Further, given the frequency and nature of alliances in the drug industry, firms can be held accountable for unintended consequences that were the result of activities well beyond that firm's control. It is not uncommon for complex drugs to have negative side effects. While some side effects become apparent early in the testing periods, others may not surface for a long time, either due to the small number of people who are affected, or because the effect does not become apparent until the patient has used the drug for a long time. The size and uncertainty of these potential liabilities make estimating these costs very difficult. For example, in 1991 Upjohn Company was sued by a man who lost his eyesight following an injection of a product produced by the company. The case dragged on for several years and a jury decided that Upjohn was liable for \$3 million in compensatory and \$124 million in punitive damages. The trial judge reduced the punitive damages to \$35 million. Upjohn filed an appeal and after a number of complications, the amount of the punitive damages was set to \$6.1 million.¹⁴

FDA Regulations

The Food and Drug Administration (FDA), the principal federal agency enforcing U.S. food and drug laws, regulates the drug approval process in the U.S., which is believed to be the most rigorous of its kind in the world. The FDA requires drug producers to provide evidence that a drug is safe and effective before granting approval for commercialization. In addition, the FDA requires producers to disclose information about possible side effects of the drugs and to label drug packaging with details regarding the ingredients.

The FDA regulates the introduction of new drugs and monitors the manufacturing, transport, storage, and sale of all food, medical devices, cosmetics, and biologics. Exhibit 1 summarizes the FDA approval process. After identifying a new compound in the laboratory, a pharmaceutical firm must undertake the following activities to obtain FDA approval: (1) pre-clinical testing to demonstrate safety of the compound (in some cases animal models can be established to test

¹³ For more detail, see "How a drug approved by the FDA turned into a lethal failure," *Wall Street Journal*, 9/30/98.

¹⁴ For details, see "Will this case ever end?" *McDermott, Will & Emery Newsletter* at <http://www.mwe.com/news/pln0897.htm>.

biological activity); (2) file Investigational New Drug Application (IND) with the FDA; (3) successfully complete Phase I, II, and III clinical trials, each with different requirements; and (4) file New Drug Application (NDA) or a Biologics License Application (BLA). Even if a compound survives all of these trials and is approved by the FDA, the pharmaceutical firm must continue to submit periodic reports to the FDA, including reports of adverse reactions and on appropriate quality control. For some medicines, the FDA requires additional trials (Phase IV) to evaluate long-term effects. In addition, firms must obtain FDA approval for facilities where the drugs are produced. Such facilities require large investments and are subject to periodic FDA inspections after initial approval is granted.¹⁵

As shown in Exhibit 1, it can take \$500 million and 15 years for an experimental drug to go from the lab to patients. Merely five in 5,000 compounds that enter pre-clinical testing make it to human testing, with only one of those five ultimately approved for sale. Many firms do not survive this process.¹⁶ To help lower the cost of drug development and expedite the approval process, the FDA simplified the review process in 1992. The average review time for drugs introduced in 1997 was 19 months, down from 35 months the year before. However, it still takes many years of research to reach phase I of the FDA approval process. The number of new drugs approved by the FDA increased to 121 in 1997, compared to an average of 70 each year from 1990 to 1994. The FDA under more recent pressure for reform has instituted an expedited review status for drugs developed to treat diseases where there is an unmet need, such as AIDS and cancers. Expedited review will ensure a review (not necessarily approval) within six months of submittal.

In 1983, the U.S. government passed the Orphan Drug Act to provide pharmaceutical firms monetary incentives, such as Federal grants and tax credits, to develop treatments for rare diseases. Under this Act, diseases that affect less than 200,000 individuals in the U. S. are considered “rare.” Although obtaining orphan drug designation does not change the duration of regulatory review, a company will enjoy monopoly status for seven years if it is the first company to receive FDA approval for an effective treatment of a rare disease. Once the first orphan drug for treating a certain disease gains FDA approval, no approval of the same drug for the same indication from another company will be granted for seven years as long as adequate supply of the drug is maintained.¹⁷

¹⁵ See the home page of the FDA for more information (<http://www.fda.gov/>).

¹⁶ After FDA announced the need for additional clinical trials for Shaman Pharmaceuticals’ new drug Provir, the company announced that it was quitting the pharmaceutical business and laying off 65 percent of its work force. See “Same as it ever was” *Pharmaceutical Executive* April 1999.

¹⁷ The market size for an original orphan drug may be reduced when a competing firm receives FDA approval for a drug that treats a different indication. Once the FDA approves the drug for a different indication, the competing firm can then prescribe the same drug off-label and compete with the drug that received the original orphan indication.

In the face of significant capital requirements and uncertainty in the regulatory processes, many smaller biopharmaceutical firms have formed strategic alliances with larger firms to extend resources and succeed in this industry. For some, the alliance is the beginning of a symbiotic relationship; for others, it can be the beginning of a long-term nightmare.

Alliances

The dual challenge of obtaining adequate capital and quickly converting scientific breakthroughs into products suitable for commercial development has prompted a wide range of organizations (e.g., Fortune 500 pharmaceutical firms, universities, start-up biotechs, and research centers) to form a variety of strategic alliances. Strategic alliances are agreements between organizations to work together in specified ways to increase the chances of successfully developing or commercializing their products.¹⁸ Forming strategic alliances is one way of achieving organizational goals through collaboration with other firms, while remaining a separate entity. There are many potential benefits from alliances, including the ability to diversify product offerings, transfer risks, and gain access to capital. As Antje Witte, the investor-relations manager of the German pharmaceutical firm Schwarz Pharma,¹⁹ put it, “We are essentially outsourcing the risk of basic research.” In addition, alliances provide large firms access to people with the necessary talents and skills, that prefer to work at a smaller entity.²⁰ In turn, smaller R&D-focused enterprises seek alliances with established firms to gain access to manufacturing capabilities, distribution channels, and cash flow needed to fund operations until a product reaches commercialization. With additional resources from larger firms, smaller organizations can develop and market a drug much faster than they could without such collaboration. Given these mutual benefits, strategic alliances among companies are becoming increasingly common in the pharmaceutical industry. Exhibit 2 shows the growth of alliances in the pharmaceutical industry from 1986 to 1995.

As the complexity of a firm’s alliances increases, the potential benefits and risks associated with such alliances may also increase. Details concerning future profits and patent rights need to be legally defined, and the determination of whether or when to recognize revenue can be difficult. Under most agreements, the R&D firm will receive milestone payments and royalties on future sales from the alliance partner. In return, the alliance partner may receive exclusive rights to

¹⁸ Business International (1990, 27). According to Britannica Online, the English word alliance is derived from the French word *alliance* which has the connotation of “marriage”.

¹⁹ After “search and development” for about two years, Schwarz Pharma has decided that it has little edge in basic research. The firm started to form alliances with biotech companies that have promising products but limited resources. Currently, the firm has signed several alliance agreements, including one with Genentech and one with Eli Lilly. See detail in “Europe’s ailing drug makers,” *The Economist*, 4/10/99.

²⁰ “Mergers and Alliances: Hold my hand”, *The Economist*, 5/15/99.

market the drug in certain parts of the world. Many agreements also include options where one or both parties to the alliance can terminate the arrangement at any time for any reason. In some cases the agreements give one or both parties certain other rights over the product, contingent on events such as a hostile acquisition by other companies. The terms of these agreements often depend on the size of the market being targeted and the bargaining power of each party. When there is significant disparity in bargaining power between the parties, the terms of the agreement can greatly favor one party over the other. For example, after cloning the first human insulin in 1978, Genentech formed an alliance with Eli Lilly. This alliance has helped Eli Lilly sell a product, Humulin, that produced \$959 million for Eli Lilly during 1998, but generated no royalties for Genentech for that year.²¹

Given the business risks and financial and regulatory challenges faced by biotech companies, IDEC is rather unusual in that it is one of only a very small number of independent biopharmaceutical firms with an FDA approved product, FDA approved manufacturing facility, and potential for significant growth. In the following sections, details are presented about how IDEC, which has been called a “hyper-partnered” firm, balanced opportunities, risks, execution, and control to achieve success in both the scientific and financial aspects of its business.

Company Overview

It’s hard not to be bullish on IDEC. Here is a sample of what some equity analysts and industry watchers have to say:

*IDEC cleared the FDA in record time.*²²

As the first company to receive FDA approval of a monoclonal antibody to treat cancer, IDEC enters the exclusive ranks of small biotech companies that have brought a product from initial discovery to commercialization. Led by chairman, president, and CEO William Rastetter, the San Diego-based company, along with development partner Genentech, has marketed Rituxan® for the treatment of relapsed or refractory low-grade or follicular, CD20-positive B-cell non-Hodgkin’s lymphoma. The development of Rituxan is just one part of the company’s strategy for success. Its autoimmune-disease business holds even greater potential for profit growth. As the first marketed product for

²¹ “The Millennium Minuet,” *Forbes*, 5/31/99.

²² *Individual Investor*, November 1999.

*IDEC, though, Rituxan has set the stage for future development and could transform the company from a once-fledgling start-up to a powerhouse in the industry.*²³

*Not only does the company have a robust core technology and a broad product pipeline, IDEC has large collaborative revenues to cover a significant portion of overhead and a strong balance sheet with no apparent further need for equity financing. The company is cash flow positive and well capitalized. Its a quality company with a quality product pipeline.*²⁴

Founded in 1986 in San Diego, California, IDEC Pharmaceutical Corporation is a leading biopharmaceutical enterprise focused on developing and manufacturing drugs for the treatment of cancer (such as lymphoma) and autoimmune and inflammatory diseases (such as rheumatoid arthritis). As of January 31, 1999, IDEC employed 365 people. Within the company's R&D group, over two dozen employees hold either a M.D. or Ph.D. In addition to a strong technical staff, IDEC has a capable executive group. William H. Rastetter, Chairman, CEO, and president, has many years of experience in the pharmaceutical industry, is highly regarded both for his scientific capabilities and business acumen, and has a knack for negotiating successful corporate partnerships with companies ranging from fledgling start-ups to industry giants. Commenting on IDEC's propensity to enter into strategic alliances, Rastetter noted in a November 1998 interview with *Pharmaceutical Executive* that IDEC is a "...capabilities driven company. We know what we're good at and we like to stick to our knitting. We rely on corporate partners to do other things."

IDEC, in collaboration with corporate partner Genentech, currently has one FDA-approved product, Rituxan, which treats non-Hodgkins lymphoma (NHL),²⁵ a cancer of the lymphatic system. IDEC has another NHL drug, Zevalin™, that is in the latter stages of the FDA approval process. Zevalin is used in conjunction with Rituxan and targets lymphatic tumors. IDEC will commercialize Zevalin in the U.S. and has partnered with German pharmaceutical giant Schering AG to commercialize Zevalin outside the U.S. In addition to these two important drugs, IDEC has several other products in the pipeline, developed several proprietary technologies relating to its product development, obtained FDA approval for its manufacturing facility,²⁶ and continues to seek alliances that help the company create shareholder value. Exhibit 3 summarizes some of the

²³ *Pharmaceutical Executive*, Volume 18, November 1998.

²⁴ *BioTech Navigator*, September 1998.

²⁵ Jordan's King Hussein, a key person in the Middle East peace process, and Jacqueline Kennedy Onassis, are among those who died recently from this disease.

²⁶ IDEC's manufacturing facility has been approved for the production of Rituxan and is one of approximately 13 FDA approved biological manufacturing facilities in the US.

important milestones IDEC has achieved since inception, including some of the alliance agreements IDEC has formed with other enterprises.

Non-Hodgkins Lymphoma and Rituxan

One of IDEC's strategies is to focus on the discovery and development of therapies for lymphoma, a subset of cancers that begin in the lymph system. B-cell lymphomas are broken down into two categories, Hodgkin's Disease and the Non-Hodgkin's Lymphomas. Non-Hodgkin's Lymphomas (NHL) are cancerous growths of lymphatic cells, excluding those due to Hodgkin's Disease. Currently, this disease afflicts approximately 240,000 patients in the United States,²⁷ 120,000 patients in Europe,²⁸ and thousands of additional patients in Asia. About 30,000 new cases of NHL are diagnosed in the U.S. each year,²⁹ and about 24,000 people in the U.S. died from NHL in 1997.³⁰ Depending on how fast the particular lymphoma develops, NHLs are given three grades: low grade, intermediate grade, and high grade.

Rituxan is IDEC's therapy for low grade NHL.³¹ It is an antibody designed to use the patient's own immune mechanisms to destroy the cancer. Rituxan works by targeting and binding to a specific protein on the surface of the patient's B cells. Although mature healthy cells are destroyed along with the malignant cells, the patient's cells in the bone marrow, which are not affected by Rituxan, replenish the supply of B cells.

The FDA approved Rituxan in November 1997, making it the first monoclonal antibody ever approved for cancer therapy and the first new single agent for the treatment of NHL in 10 years. Exhibit 4 shows the sales of Rituxan by indication. IDEC and Genentech are currently exploring about 120 ideas for expanding the use of Rituxan to other indications, including intermediate and high-grade lymphoma.

Financial Overview

Prior to November 1997, IDEC's primary source of revenues were payments (e.g., licensing fees, milestone payments, etc.) from its strategic partners. Since November 1997, IDEC's most significant source of revenue has been from the sale of Rituxan. IDEC's first year of profitable operations was 1998, as revenue and net income totaled \$87 million and \$21.5 million, respectively. Exhibit 5 shows IDEC's balance sheets for 1996, 1997 and 1998. Exhibit 6 shows

²⁷ *BioTech Navigator*, September 1998

²⁸ *Wall Street Journal*, December 1, 1997.

²⁹ *Medical Sciences Bulletin*, Issue 243, December 1997.

³⁰ *BioTech Navigator*, September 1998

³¹ According to *BioTech Navigator* (September 1998), about 156,000 people in the U.S. have low grade NHL.

IDEC's income statements for years ending 1996, 1997, and 1998. IDEC's share of U.S. sales from Rituxan through the first two quarters of 1999 totaled \$120 million.

IDEC has had several stock issues. Its IPO, priced at \$15 per share, occurred in September 1991 when IDEC raised approximately \$48 million. There were also stock issues in June 1994 and June 1996, where IDEC raised approximately \$10 million and \$46 million, respectively.³² Exhibit 7 shows IDEC's weekly stock price from its IPO in 1991 to July 1999. During the first quarter of 1999, IDEC raised \$113 million from the private sale of 20-year, convertible, zero coupon subordinated notes. IDEC's management has indicated that the funds will most likely be used to (1) commercialize Zevalin in the U.S., (2) acquire new products, technologies, and other businesses, (3) expand manufacturing facilities, and (4) support other general working capital requirements.

CEO Vision, Strategic Focus, and Corporate Objectives³³

Commenting on his vision for IDEC, CEO William Rastetter noted "We have a capital structure and a wealth of human resource and technology that makes remaining a self-standing, self-sufficient company very compelling. If you take the longer view that any biotech investor must take given the 10 years required to develop a product, IDEC is a very compelling place to put an investment. We have taken the technology, stayed very focused, and delivered value with that technology in two very important strategic market areas: cancer and autoimmune disease. I certainly see us as a technology growth story and an EPS growth story moving forward here. I don't see any reason why IDEC shouldn't be an independent company 5 to 10 years from now, presumably much bigger than it is today."

With a successful collaborative emphasis and its flagship product Rituxan providing consistent cash flow, IDEC seeks to build shareholder value through increased investment in R&D, while remaining focused on cancer and autoimmune disease. While management is pleased with the success of Rituxan and the potential of its other forthcoming cancer products (e.g., Zevalin), they believe that truly tremendous growth will come when its autoimmune disease products are launched. According to Rastetter, "Those (autoimmune disease) markets are huge. They represent medical needs that are largely unmet...We can make huge contributions here."

³² IDEC also raised capital using other approaches. For details, see "Raising capital and saving fees," *Global Finance* (June 1998).

³³ The information in this section is based on a published 1998 *Pharmaceutical Executive* interview of IDEC chairman, president, and CEO William Rastetter.

Core Business Processes

IDEC's core business comprises four primary processes: research and development, drug approval, production, and marketing/sales.

Research and Development Process

IDEC focuses primarily on developing: (1) immune system cancer products and (2) autoimmune and inflammatory products. Exhibit 8 presents IDEC's products within each of these two categories and indicates the FDA approval progress made through 1998 for each product.³⁴ In the "immune system cancer products" category, IDEC has one FDA approved product, Rituxan, and another in the pipeline: Zevalin. Like Rituxan, Zevalin, which currently is in phase III of the approval process, also treats NHL. In the "autoimmune and inflammatory product category" IDEC has five products in various stages of development. Products in this category are developed to treat psoriasis, allergic rhinitis, asthma, and other inflammatory conditions. PRIMATIZED[®] IDEC-131, the farthest along in the approval process for this category of products, is now in phase II clinical trials.

During product development, IDEC obtains patents and rights on its products and proprietary technologies. As of July 1999, IDEC has 20 patents with 22 more pending U.S. and foreign patent applications. IDEC has developed several proprietary technologies, including the PRIMATIZED antibody technology,³⁵ the antigen formulation PROVAX[™], and the vector technology. These technologies allow IDEC to develop new products and to form different alliances with other firms. Exhibit 9 presents a summary of these technologies. The exhibit also shows the different products IDEC has developed using its PRIMATIZED antibody technology and the alliances IDEC has formed using its proprietary vector technology.

To ensure the continuation of certain research projects using technologies produced by other companies, IDEC has acquired both exclusive and non-exclusive rights from third parties. For example, IDEC has obtained licenses for anti-gp39 and anti-MIF from third parties to develop its own humanized anti-gp39 and anti-MIF, and PRIMATIZED anti-MIF antibody.

³⁴ Information on these products can be accessed from IDEC's SEC filings available at www.freeedgar.com.

³⁵ Primatized antibody is developed using part human and part macaque monkey. Owing to the similarity between antibodies produced by humans and macaque monkeys, Primatized antibody is developed to minimize the adverse effect of the human body attacking the foreign part of the antibody. For example, antibodies developed using mouse or part mouse and part human tend to trigger adverse reactions from the immune system as the body rejects the mouse-derived components of the antibodies.

Drug Approval Process

IDEC obtained FDA-approval for Rituxan within nine months of filing its BLA, and moved the drug from initial compound discovery to commercialization in only 7 years. Obtaining approval this quickly is very unusual in the drug industry. IDEC has succeeded in part by being able to execute better and faster than its competitors with respect to its R&D and FDA approval processes. IDEC also benefited from its ability to leverage the expertise of its partner, Genentech, during various stages of clinical trials and FDA filing preparation. IDEC will continue to rely on its alliance partners in different stages of the drug development and approval process in the United States, and aggressively pursue regulatory approval of its drugs in Europe and Asia.

Production Process

IDEC has obtained FDA approval of its manufacturing facility to produce Rituxan commercially. It relies on Genentech, its alliance partner, to produce enough additional Rituxan to meet demand. With the existing approved manufacturing facility, it will be easier for IDEC to obtain future FDA approval to commercially produce other products in the pipeline. All Rituxan produced by IDEC is sent to Genentech in bulk because IDEC does not have fill/finish capability.³⁶ Currently, IDEC is revising its production agreement with Genentech to transfer all Rituxan manufacturing responsibilities to Genentech so IDEC can use its production facility to produce Zevalin, its next product in the pipeline. The commercialization of Zevalin and authority to manufacture the drug in IDEC's facility is pending FDA approval as of July 1999. As for IDEC's other products in the pipeline, IDEC plans to rely on its alliance partners for capacity as well as add its own additional manufacturing capacity to meet long term goals as the company moves its portfolio of products toward commercialization.

Marketing/Sales Process

IDEC has formed several alliances with companies to market, sell, and distribute its products. For example, IDEC has marketing or co-promotional agreements with Genentech, F. Hoffmann-La Roche (through its alliance with Genentech), and Zenyaku Kogyo Co. to market and sell Rituxan in the United States, Europe, and Japan, respectively. IDEC retains marketing or co-promotion rights to all of its products in the United States. IDEC has developed a sales force with expertise in managed care and diseases, such as NHL, in an effort to successfully market its products to doctors in the oncology and hematology market. In June, 1999 IDEC entered into an agreement with Schering AG, granting Schering exclusive marketing and distribution rights to Zevalin outside

³⁶ A company must package and label a drug before selling it on the market. This process of packaging and labeling a drug is called fill/finish. As part of the drug approval process, a company needs to submit data on the results of stability tests relating to recommended storage temperature, type of container used in storing the drug, and the duration for which the drug remains effective while in storage. A drug must be packaged and labeled according to the specifications in the new drug application.

the U.S. in exchange for milestone and R&D payments of approximately \$47.5 million and royalties on sales outside the U.S. IDEC will retain exclusive U.S. rights to Zevalin, thus the company will keep all of the U.S.-based sales. In IDEC's agreement with Genentech, negotiated several years ago, IDEC does not have exclusive rights to U.S. sales. Rather, IDEC received milestone payments from Genentech during the development of Rituxan and receives a minority share of Rituxan profits in the U.S., with the majority of profits going to Genentech.

Competition

IDEC is the only company with a FDA approved treatment for lymphoma. Although not a cure, it appears that Rituxan is quickly becoming the standard treatment of care for certain types of lymphoma. IDEC's position will likely be further strengthened when its complementary lymphoma drug, Zevalin, is commercialized. Before Rituxan, the standard of care for lymphoma was chemotherapy. Now Rituxan is often used in conjunction with, or instead of, chemotherapy. At least four companies have alternative therapies in various stages of the FDA approval process. See appendix A for more information on IDEC's NHL competitors. IDEC also competes with established biotech firms, pharmaceutical firms, and other organizations (e.g., governments, research institutions, and universities) that have significant advantages over IDEC in terms of resources (e.g., infrastructure, funding, etc.). Such competition extends beyond products and includes competition for acquiring technology, attracting and retaining talented professionals, and acquiring intellectual property rights.

Strategic Alliances

Alliances are a critical underpinning of IDEC's current and future success. One of IDEC's most prominent alliances was established in March 1995, when IDEC's stock was coming off its all-time low and the company was running out of capital. IDEC entered into an agreement with Genentech to co-promote Rituxan. This alliance provided IDEC a vital cash infusion, FDA approval expertise, and marketing and manufacturing prowess. In exchange, IDEC agreed to share with Genentech future profits generated from the sale of Rituxan in the U.S. Under the terms of the alliance agreement, Genentech's accounting system handles sales of Rituxan, and determines the amount of profit to be shared with IDEC as determined by the alliance agreement. Obviously, the effectiveness of the accounting controls in place at Genentech, and the ultimate accuracy of Genentech's accounting for shared profit is an important control issue for IDEC. IDEC's own accounting system and related controls appear to be effective, and IDEC's agreement with Genentech includes provisions for IDEC to audit Genentech.

The alliance with Genentech was just one of many made by IDEC during the past several years. IDEC has grown profitable and sustained a competitive advantage through the formation of a number of strategic partnering arrangements for the majority of its product development programs. IDEC funds a substantial amount of its product development costs through these partnerships and effectively leverages the production, development, regulatory, marketing, and sales expertise of its partners. Many of IDEC's alliances provide for payments to IDEC, including license fees, research and development fees, and milestone payments. In addition, IDEC's strategic partners pay royalties on product sales, or in the case of Genentech, share co-promotion profits in the United States once products are commercialized. IDEC's payments are contingent upon the company achieving milestones related to development, clinical trial results and regulatory approvals, and other factors. As IDEC has grown and increased its cash flow, the company has formed alliances where IDEC is the provider of funds. For example, IDEC has formed alliances to acquire technology and rights to market products in exchange for milestone payments and royalties on future sales.

Exhibit 10 summarizes the alliances formed between IDEC and each of its partners, organized by IDEC's two strategic foci: (1) cancer products and (2) autoimmune/inflammatory products. The left-hand side shows the immune system cancer products and the right-hand side shows the autoimmune and inflammatory products. Also shown are the types of alliance for the products, using the characters R (which denotes research alliance), D (which denotes development alliance), A (which denotes drug approval alliance), P (which denotes production alliance), and M (which denotes marketing alliance). The exhibit also shows the marketing rights of each alliance partner. In addition, if IDEC licenses a compound from another company to develop a product, the word LICENSE is used to indicate this relationship, and a dotted arrow indicates the company and the product that IDEC is developing. Alliances are presented in chronological order in the following sections.

SmithKline Beecham, p.l.c.(SB)

In October 1992, IDEC and SB formed research and development alliances to develop and commercialize products based on IDEC's PRIMATIZED anti-CD4 antibodies, also known as Clenoliximab and IDEC-151. SB provides IDEC some of the research funding related to Clenoliximab, and the alliance formed between them involves research (R), development (D), obtaining drug approval (A), production (P), and marketing (M). Under this alliance agreement, IDEC keeps the co-promotional rights in the United States and Canada while SB will manufacture and have worldwide rights to any products developed using PRIMATIZED anti-CD4 antibodies. In addition, IDEC will receive milestone payments amounting to over \$60 million from SB, subject to achieving certain progress as set by the agreement. As of December 31, 1998, IDEC has

already received \$32.6 million from SB. The agreement also gives SB the right to terminate the collaboration any time with 30 days' written notice.

Mitsubishi Chemical Corporation (Mitsubishi)

In November 1993, IDEC signed a three-year alliance agreement and an ongoing license agreement with Mitsubishi for developing PRIMATIZED anti-B7 antibody. Under this agreement, Mitsubishi receives exclusive rights in Asia to make, use, and sell any PRIMATIZED anti-B7 antibody products, and IDEC will receive royalties from Mitsubishi on sales of any anti-B7 related products. Subject to achieving certain research progress as set forth by the agreement and related to anti-B7, IDEC will receive a total of \$12.2 million from Mitsubishi. By the end of 1998, IDEC had already received \$9.2 million from Mitsubishi.

Seikagaku Corporation (Seikagaku)

In December 1994, IDEC formed a development and marketing alliance with Seikagaku to develop and commercialize products based on IDEC's PRIMATIZED anti-CD23 antibodies. Under these agreements, Seikagaku will provide IDEC up to \$26.0 million, subject to achieving certain research and development progress set forth by the agreement. As of December 31, 1998, IDEC had already received \$18.9 million from Seikagaku. In return, Seikagaku received exclusive rights in Europe and Asia to all products emerging from the collaboration. IDEC will receive royalties on eventual product sales by Seikagaku. At any time, Seikagaku may terminate the license agreement by giving IDEC 60 days' written notice based on a reasonable determination that the products do not justify continued development or marketing.

Genentech, Inc. (Genentech)

In March, 1995 IDEC and Genentech formed a co-promotional alliance for clinical development, manufacturing and commercialization of Rituxan. In exhibit 10, the arrow from IDEC to Rituxan indicates that the product was developed by IDEC. The arrow extended from Rituxan to Genentech indicates the alliance formed between IDEC and Genentech relates to developing (D), obtaining drug approval (A), producing (P), and marketing (M) Rituxan. While IDEC retains the co-promotional rights for Rituxan in the United States, this alliance agreement gives Genentech worldwide rights to Rituxan. This is shown with "Worldwide" below "Genentech". The dotted arrow extended from Genentech to Hoffman-LaRoche indicates that Genentech has granted Hoffman-LaRoche ("Roche") marketing rights in Canada and Europe. In November 1995, IDEC and Genentech formed an alliance arrangement with Zenyaku Kogyo Co. Ltd. (Zenyaku) giving Zenyaku exclusive rights to develop, market and sell Rituxan in Japan. This is shown with a dotted arrow extending from Genentech to Zenyaku and a solid arrow extending from Rituxan to

Zenyaku. IDEC will receive royalties from both Zenyaku and Roche on sales of Rituxan outside the United States. As a result of the partnership with Genentech, IDEC received \$53.8 million from Genentech. The agreement between IDEC and Genentech also allows each party to buy the other party's co-promotional rights in case of an acquisition of IDEC by a third party.

Eisai Co., Ltd. (Eisai)

In December 1995, IDEC formed a research and development alliance with Eisai to develop and commercialize the humanized and PRIMATIZED anti-gp39 antibodies. The development of the humanized anti-gp39 antibody is based on a technology that IDEC licensed from Dartmouth College. This arrangement is indicated in exhibit 10 by the word LICENSE between Dartmouth College and IDEC and a dotted arrow extending from "Dartmouth College" to "IDEC-131 (Anti-gp39)." Subject to achieving certain progress set forth in the agreement with Eisai, IDEC will receive up to \$37.5 million from Eisai for research and development. As of December 31, 1998, IDEC has already received \$29.1 million. In return, Eisai receives exclusive rights in Asia and Europe to develop and market products emerging from the collaboration. IDEC will receive royalties on eventual product sales by Eisai. The agreement also allows Eisai to terminate the partnership by giving IDEC 60 days' written notice at any time.

Cytokine Networks, Inc. (CNI)

In September 1997, IDEC acquired exclusive license rights from CNI to use and develop CNI's anti-MIF antibody technology. Under this agreement, IDEC made a \$3 million preferred equity investment in CNI and will pay up to \$10.5 million in milestone payments to CNI. IDEC will also pay royalties to CNI on the sales of any approved products resulting from the collaboration.

Schering AG (Schering)

In June 1999 IDEC and Schering formed a licensing agreement granting Schering exclusive marketing and distribution rights to Zevalin outside the U.S. IDEC will retain U.S. rights to Zevalin, which is a complementary product to Rituxan for the treatment of low-grade, non-hodgkins lymphoma. Schering will pay IDEC approximately \$47.5 million in milestone and R&D payments in addition to royalties on all sales outside the U.S. In exhibit 10, the arrow from IDEC to Zevalin indicates that the product was developed by IDEC. The arrow extended from Zevalin to Schering AG indicates the alliance formed between IDEC and Schering relates to marketing (M) Zevalin. This alliance gives marketing rights outside the U.S to Schering.

Other Alliances

IDEC has formed alliances with several other firms on its proprietary vector technology (see “Proprietary Vector Technologies” in Exhibit 9). IDEC entered into a worldwide license agreement with Chugai Pharmaceutical Co., Ltd. (Chugai), Genentech, Kirin Brewery Co., Ltd., Pharmaceutical Division (Kirin), and Boehringer Ingelheim GmbH (BI) for IDEC’s proprietary vector technology for high expression of recombinant proteins in mammalian cells. As part of the agreement, Chugai, Genentech, BI, and Kirin paid an up-front licensing fee of \$4.5 million, \$5.1 million, and \$6.3 million respectively to IDEC. Chugai, BI, and Kirin will also pay royalties on sales of any products manufactured using the technology. Exhibit 9 also shows another one of IDEC’s technologies - PROVAX™. IDEC is currently looking for an alliance to develop PROVAX into a cancer therapeutic vaccine. The firm has completed the phase I clinical trial.

**Exhibit 1
FDA Approval Process**

	Early Research/ Pre-clinical Testing	File IND at FDA	Clinical trials			File NDA at FDA	FDA Approval	15 total	Phase IV
			Phase I	Phase II	Phase III				
Years (approx.)	6.5		1.5	2	3.5				
Test Population	Laboratory and animal studies		20 to 80 healthy volunteers	50 to 300 [#] patient volunteers	100 to 3000 patient volunteers				
Purpose	Assess Safety and biological activity		Determine safety and dosage	Evaluate effectiveness, look for side effects	Confirm effectiveness, monitor adverse reactions from long-term use	Review process/ approval		Additional post-marketing testing required by FDA	
Success Rate	5,000 compounds evaluated		5 enter trials				1 approved		

[#] Size is dependent on indication, severity of the disease, blinded comparison, and desired statistical significance.

Pre-clinical testing: Laboratory and animal studies conducted by a firm to demonstrate biological activity of the compound. This process is quite long, taking an average of 6.5 years. In addition, 5,000 compounds are evaluated in this stage for every one drug that receives FDA approval.

Investigational New Drug Application (IND): After completing pre-clinical testing, a company files an IND with the FDA to begin testing the drug on people. If the FDA does not disapprove it within 30 days. The IND shows results of previous experiments; how, where and by whom the new studies will be conducted; the chemical structure of the compound; how it is thought to work in the body; any toxic effects found in the animal studies; and how the compound is manufactured.

Clinical Trials, Phase I: These trials involve about 20 to 80 volunteers and are focused on the drug's safety features and determines how the human body process the drug. This phase takes about 1.5 years to complete.

Clinical Trials, Phase II: In these trials 100 to 300 volunteer patients (people with the target disease) participate in this phase to assess a drug's effectiveness. This phase takes about 2 years to complete.

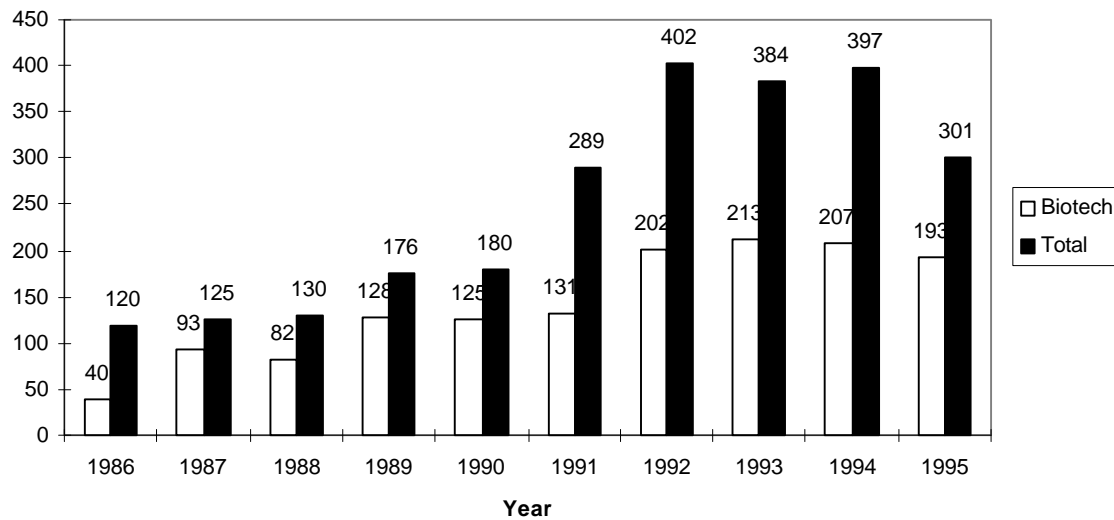
Clinical Trials, Phase III: These trials are undertaken to confirm the effectiveness of the drug and to assess adverse reactions from long-term use. This phase usually involves 1,000 to 3,000 patients in clinics and hospitals and takes about 3.5 years to complete.

New Drug Application (NDA): After the completion of all three phases of clinical trials, the company analyzes the data. If the data demonstrate that the drug is effective and meets safety standards, the firm files an NDA (new drug application) or BLA with the FDA. The NDA /BLA contains all of the scientific information that the company has gathered. NDAs and BLAs are typically 100,000 pages or more. By law, the FDA is allowed six months to review an NDA. The average NDA review time for new molecular entities approved in 1997 was 16.2 months.

Approval: Once the FDA approves a NDA/BLA, the new medicine becomes available for physicians to prescribe. A company must continue to submit periodic reports to the FDA, including any cases of adverse reactions and appropriate quality-control records. For some medicines, the FDA requires additional trials (Phase IV) to evaluate long-term effects.

Exhibit 2

Frequency of Strategic Alliances, 1986-1995



The 1995 data are for the months January to November.

Source = <http://www.phrma.org/facts/bkgrndr/corporate.html>.

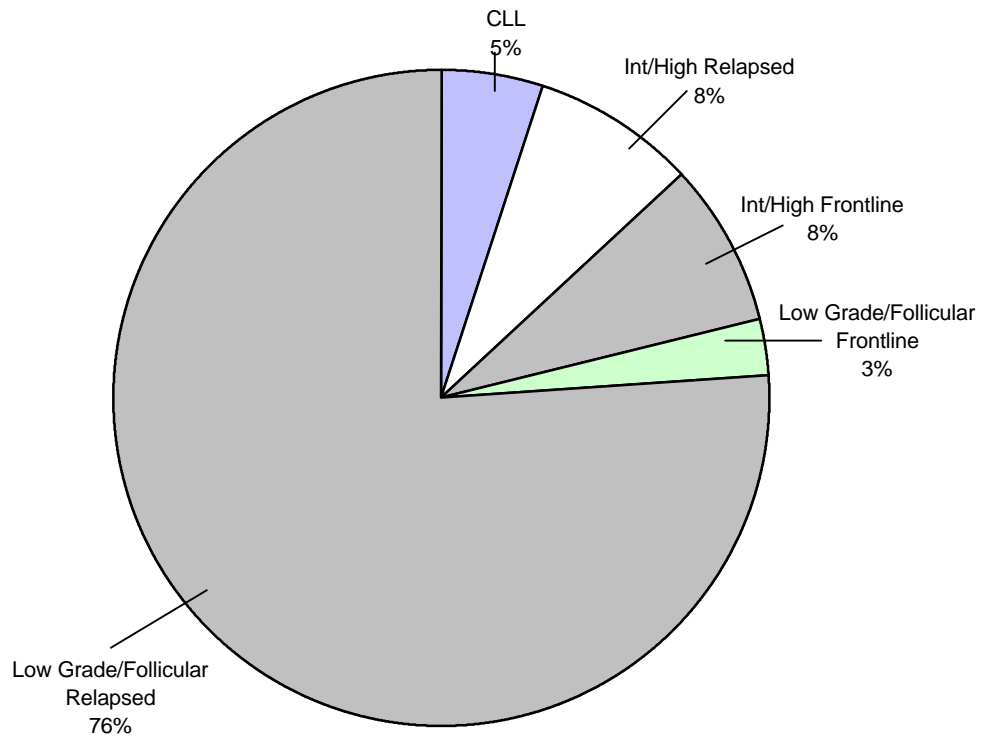
Exhibit 3

Corporate Milestones for IDEC

- 1986** IDEC Pharmaceuticals Corporation formed (located in San Diego, California)
- 1988** Merrill Lynch/ Morgan Stanley cancer partnership
- 1990** First major Japanese collaboration with Institute of Immunology
- 1991** Zenyaku Kogyo anti-CD20 partnership (this partnership relates to the NHL)
- 1991** IDEC completes initial public offering at \$15 per share
- 1992** SmithKline Beecham anti-CD4 partnership (this partnership relates to the treatment of psoriasis)
- 1993** Mitsubishi anti-B7 partnership (this partnership relates to autoimmune diseases, such as psoriasis, arthritis, and multiple sclerosis)
- 1994** Phase II clinical trial with IDEC-C2B8 (drug later named Rituxan) directed at improving remissions of B-cell lymphoma
- 1994** Seikagaku anti-CD23 partnership (this partnership relates to various allergic conditions, initially allergic asthma)
- 1995** Genentech/Roche IDEC-C2B8 partnership (drug later named Rituxan)
- 1995** Eisai anti-gp39 partnership (this partnership relates to transplantation, and antibody-mediated autoimmune diseases)
- 1996** License agreement with Chugai for IDEC's gene expression vector technology
- 1997** Acquisition of worldwide rights to 9-AC from Pharmacia & Upjohn (this drug deals with solid tumors - IDEC discontinued this program on June 30, 1999)
- 1997** License agreements with Boehringer Ingelheim and Kirin Brewery Co. for IDEC's gene expression vector technology
- 1997** Cytokine Networks anti-MIF partnership (this drug deals with various inflammatory conditions)
- 1997** FDA approves Rituxan
- 1998** U. S. patent covering PRIMATIZED antibodies
- 1999** IDEC reports first year of profitability for 1998
- 1999** IDEC raises \$113 million in private debt offering
- 1999** Zevalin licensing and marketing agreement with Schering AG

Exhibit 4

Rituxan® Sales by Indication



CLL = Chronic Lymphocytic Leukemia
Int/High = Intermediate/High
For other terms, please see glossary.

Source: Tandem, Internal Analysis

Exhibit 5 IDEC's Balance Sheets for 12/31/96 Through 12/31/98

(Figures in thousands, except par value data)

	December 31,		
	1998	1997	1996
ASSETS			
Current assets:			
Cash and cash equivalents	\$ 26,929	\$ 34,847	\$ 25,337
Securities available-for-sale	46,573	34,810	53,390
Contract revenue receivables, net	2,345	3,971	3,635
Due from related party, net	17,473	--	732
Inventories	5,346	4,134	4,384
Prepaid expenses and other current assets	2,361	1,431	3,337
Total current assets	101,027	79,193	90,815
Property and equipment, net	20,897	23,449	21,453
Investment and other assets	3,349	3,371	761
Total Assets	\$125,273	\$106,013	\$ 113,029
LIABILITIES AND STOCKHOLDERS' EQUITY			
Current liabilities:			
Current portion of notes payable	\$ 1,910	\$ 3,908	3830
Accounts payable	1,989	1,626	3106
Accrued expenses	10,238	6,382	5951
Due to related party, net	--	870	--
Deferred revenue	346	6,646	--
Total current liabilities	14,483	19,432	12,887
Notes payable, less current portion	2,095	3,886	5,015
Deferred rent	2,267	2,016	1,513
Due to related party, noncurrent	--	--	1,000
Commitments			
Stockholders' equity:			
Convertible preferred stock, \$.001 par value, 8,000 shares authorized; 228, 245, and 330 shares issued and outstanding at December 31, 1998, 1997 and 1996, respectively; \$18,350, \$19,225, and \$26,938 liquidation value at December 31, 1998, 1997 and 1996 respectively	--	--	--
Common stock, \$.001 par value, 50,000 shares authorized; 20,121 shares, 19,356 shares and \$18,059 shares issued and outstanding at December 31, 1998, 1997, and 1996 respectively	20	19	18
Additional paid-in capital	184,282	179,956	176,448
Accumulated other comprehensive income – net unrealized gains (loss) on securities available-for-sale	1	57	(37)
Accumulated deficit	(77,875)	(99,353)	(83,815)
Total stockholders' equity	106,428	80,679	92,614
Total current liabilities and stockholders' equity	\$ 125,273	\$ 106,013	\$ 113,029

Source: IDEC 1997 and 1998 Annual Report

Exhibit 6
IDEC's Income Statements for Years Ending 12/31/96 Through 12/31/98

(Figures in thousands, except per share data)	Years ended December 31		
	1998	1997	1996
Revenues:			
Revenues from unconsolidated joint business	\$ 53,813	\$ 9,266	\$ --
Contract revenues	14,846	11,840	15,759
License fees	18,300	23,500	14,250
Total revenues (including related party revenues of \$64,014, \$27,373 and \$5,500 in 1998, 1997 and 1996, respectively)	86,959	44,606	30,009
Operating costs and expenses:			
Manufacturing costs	19,602	18,875	--
Research and development	31,485	32,407	28,147
Selling, general and administrative	16,968	11,320	7,298
Total operating expenses	68,055	62,602	35,445
Income (loss) from operations	18,904	(17,996)	(5,436)
Interest income	3,626	3,489	3,178
Interest expense	(630)	(917)	(2,697)
Income (loss) before taxes	21,900	(15,538)	(4,955)
Income tax provision	(422)	(114)	--
Net income (loss)	21,478	(15,538)	(4,955)
Convertible preferred stock dividends	--	--	(696)
Net income (loss) applicable to common stock	\$ 21,478	\$ (15,538)	\$ (5,651)
Earnings (loss) per common share:			
Basic	\$ 1.08	\$ (0.83)	\$ (0.34)
Diluted	\$ 0.92	\$ (0.83)	\$ (0.34)
Shares used in computing net loss per common share			
Basic	19,838	18,739	16,573
Diluted	23,377	18,739	16,573

Source: IDEC 1998 Annual Report

Exhibit 7

**IDEC Weekly Stock Price Graph from
September 1992 to July 1999**

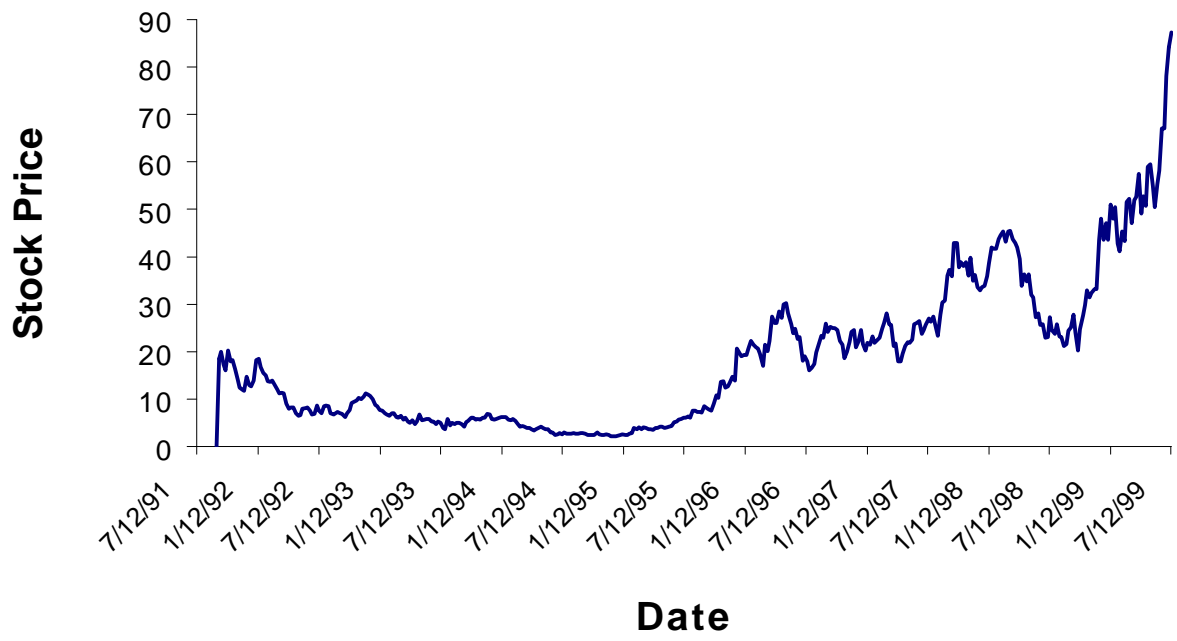
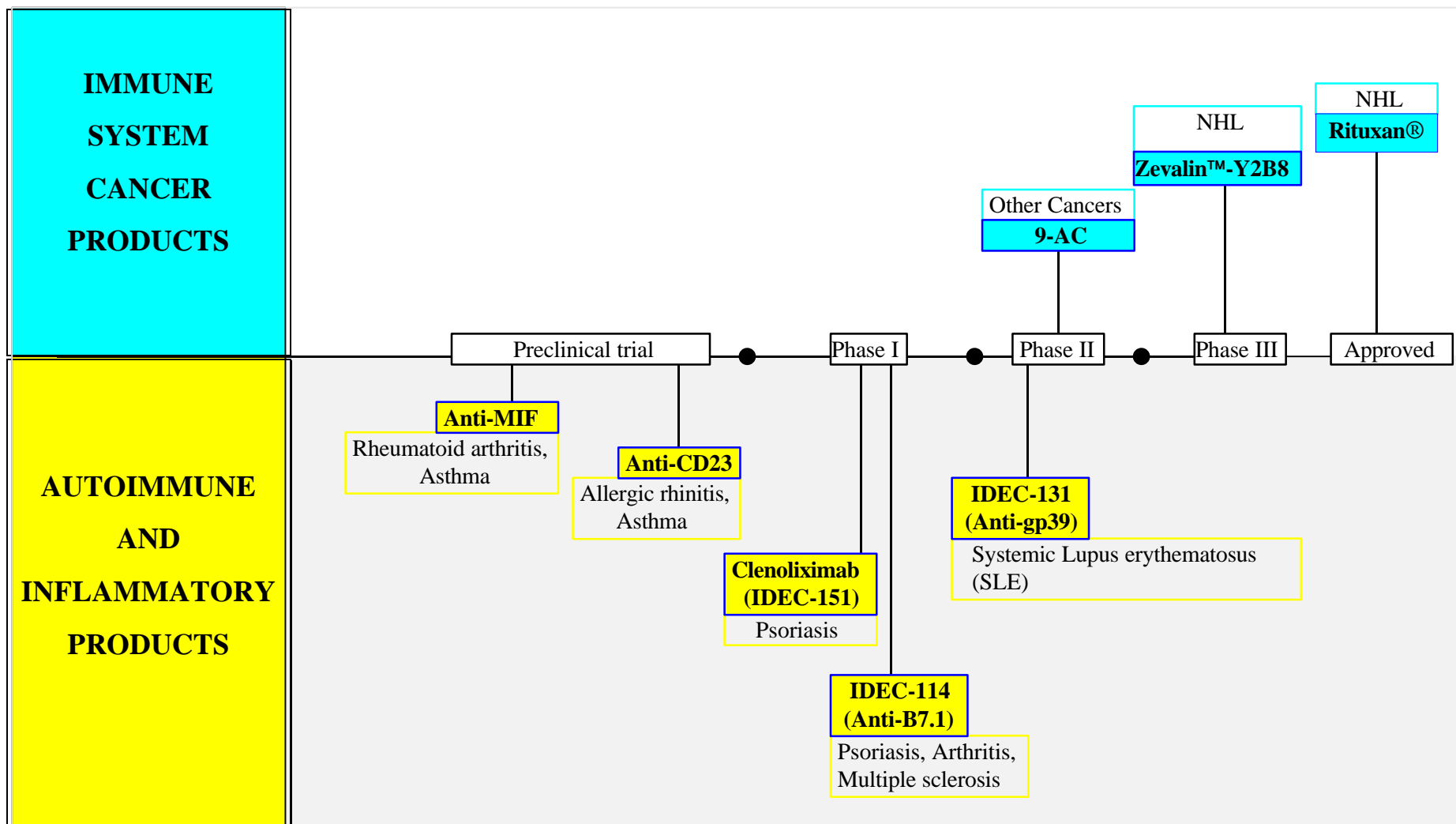


Exhibit 8
Product and Products Under Development
(9-AC Program Discontinued on 6/30/99)



**Exhibit 9
IDEC's Proprietary Technology**

IDEC Pharmaceuticals Corporation

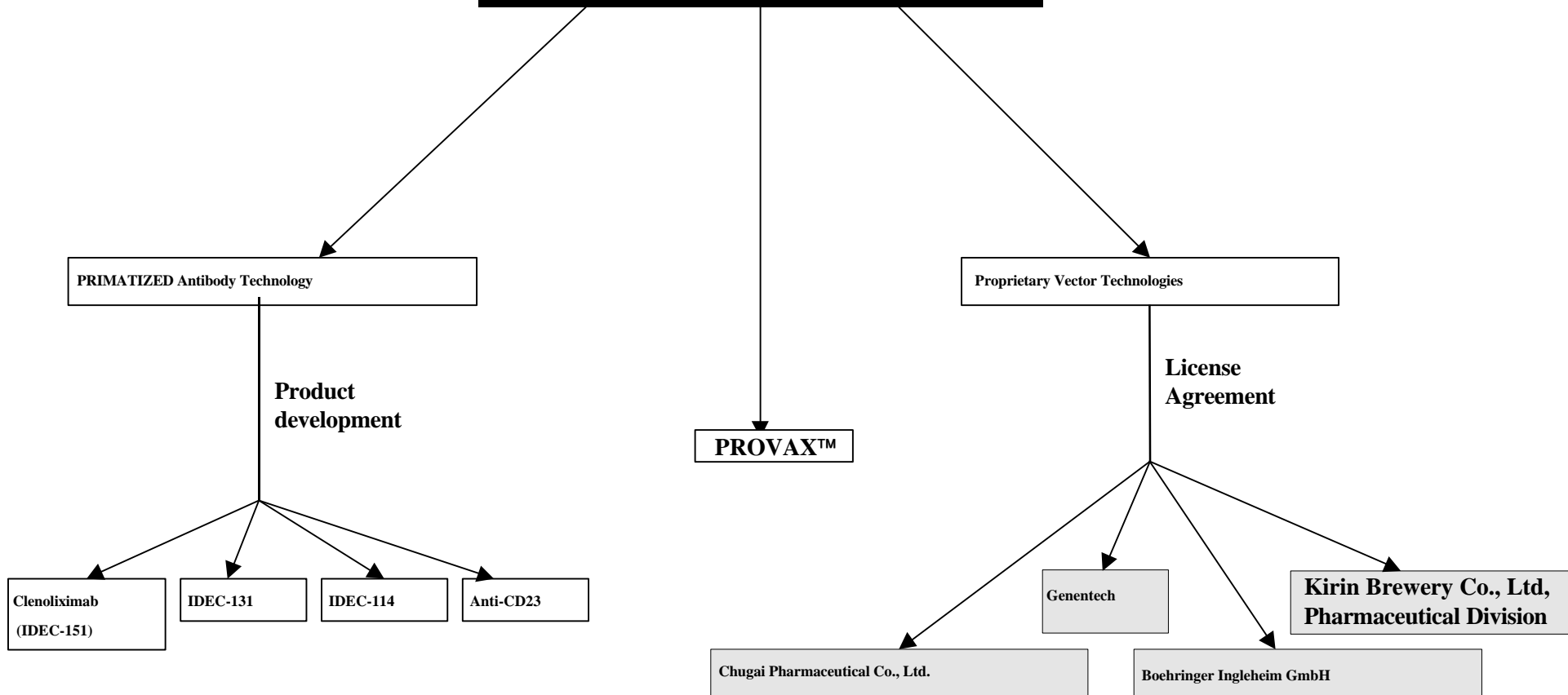
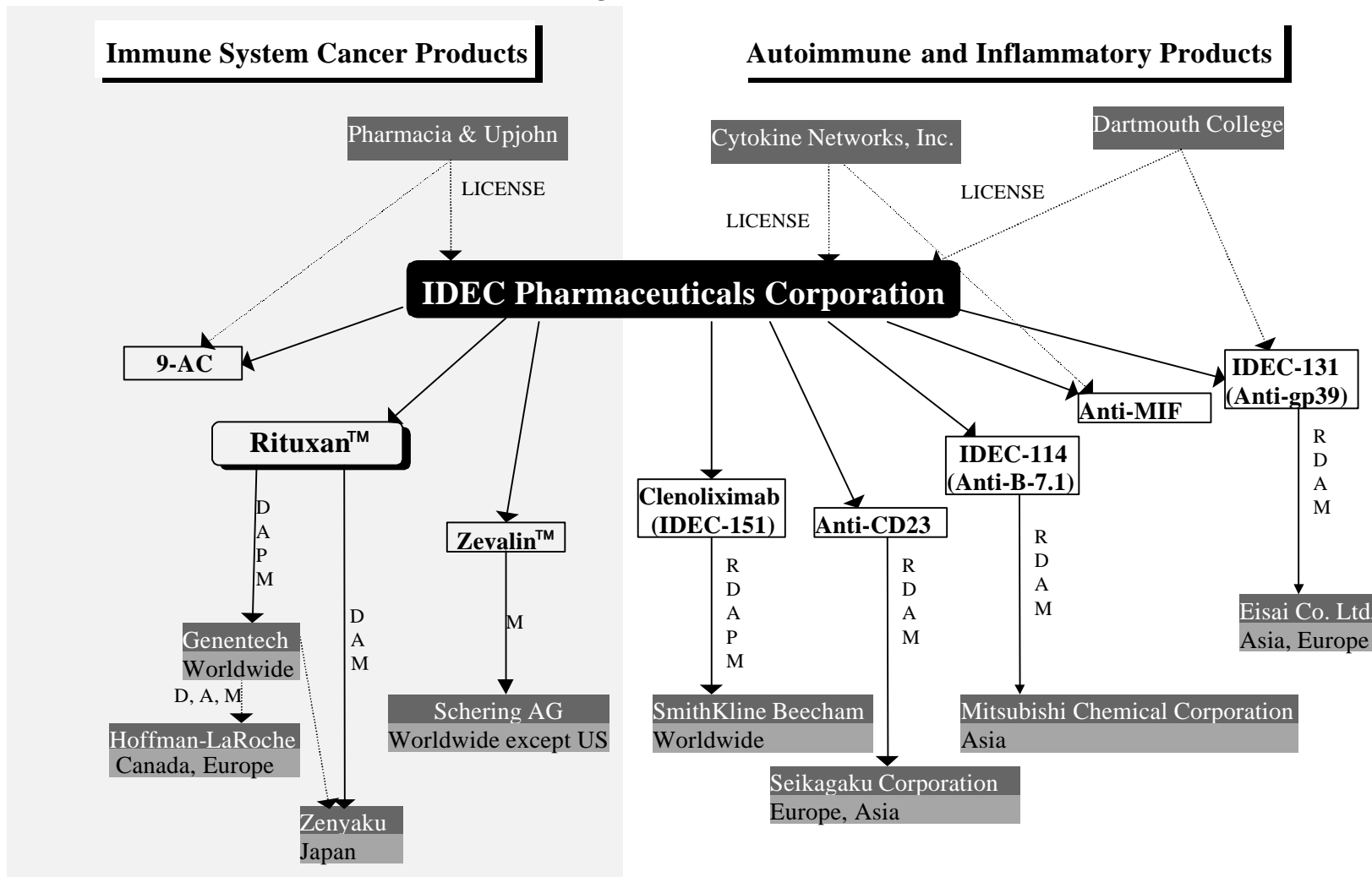


Exhibit 10
Alliances Partners of IDEC on Product Development
 (9-AC Program Discontinued on 6/30/99)



R = Research alliance D = Development alliance A = Approval process alliance P = Production alliance M = Marketing alliance

Appendix A: Products Under Development for NHL by Other Companies

Two of IDEC's leading products, Rituxan and Zevalin, are for the treatment of non-Hodgkins lymphoma (NHL). NHL exists in many different forms. Owing to the ineffectiveness of chemotherapy drugs for certain forms of NHL, new chemotherapy drugs such as CMA-676 have been developed that minimize the side effects of a chemotherapy drug, and at the same time increase the effectiveness of the drug by not harming the healthy cells in the body. These drugs may compete with IDEC's products for market share, but IDEC's products may also be used to add effectiveness to these new chemotherapy drugs. IDEC's main competitors come from other biotech firms that are attempting to extend the use of their existing products to treat NHL, or are developing new treatments for NHL. In both cases, the potential market size of IDEC's products may be reduced. For example, Protein Design Laboratories is employing a variant of its SMART humanized antibodies called SMART M195 antibody to treat acute myeloid leukemia, and acute promyelocytic leukemia. The product is at Phase II/III clinical trial.

Other biopharmaceutical companies employing antibodies to develop new treatment for NHL include:

- **Aronex Pharmaceuticals.** Aronex's product Atragen®, a lipid-based, IV formulation of ATRA, is currently in phase II clinical trials. Atragen® is developed to treat acute promyelocytic leukemia, non-Hodgkins lymphoma, prostate cancer, renal cell carcinoma, and bladder cancer. Aronex filed a New Drug Application with the FDA last year.
- **Coulter Pharmaceutical.** Coulter has developed a new product, Bexxar, to treat non-Hodgkin's lymphomas. Bexxar is a monoclonal antibody, bio-engineered to target cancer cells without harming the surrounding tissue. The product has completed Phase III clinical testing and the result has been "highly effective" in treating non-Hodgkin's lymphoma. Bexxar is projected to gain FDA approval this year. Coulter has formed an alliance with SmithKline Beecham (SB) to market Bexxar in the United States.
- **Immunomedics Inc.** Immunomedics is developing LymphoCide™, a monoclonal antigen on B-cells, to treat non-Hodgkin's lymphoma. Immunomedics filed an application for New Orphan Drug Designations in August 1998. Immunomedics has another product, LymphoCide Y-90, in Phase I/II clinical testing. This product is designed to treat aggressive non-Hodgkin's lymphomas. Immunomedics currently has a product in Phase III clinical trial for scanning and diagnosing NHL.

- **Techniclone Corporation.** Techniclone uses a monoclonal antibody labeled with Iodine-131 radioisotope to produce Oncolym® to treat advanced non-Hodgkin's lymphoma. The product is in Phase II/III human testing. Techniclone has several other technologies for treating solid tumors. These products include Vasopermeation Enhancement Agents (VEA), Vascular Targeting Agents (VTA), and Tumor Necrosis Therapy (TNT). Only TNT is in Phase II clinical testing, the other technologies are still in developmental stage. This company has over 60 patents. However, in its March 1999 10K report, the company said that additional funding is needed to meet the firm's short-term cash needs and to continue the firm's operations.