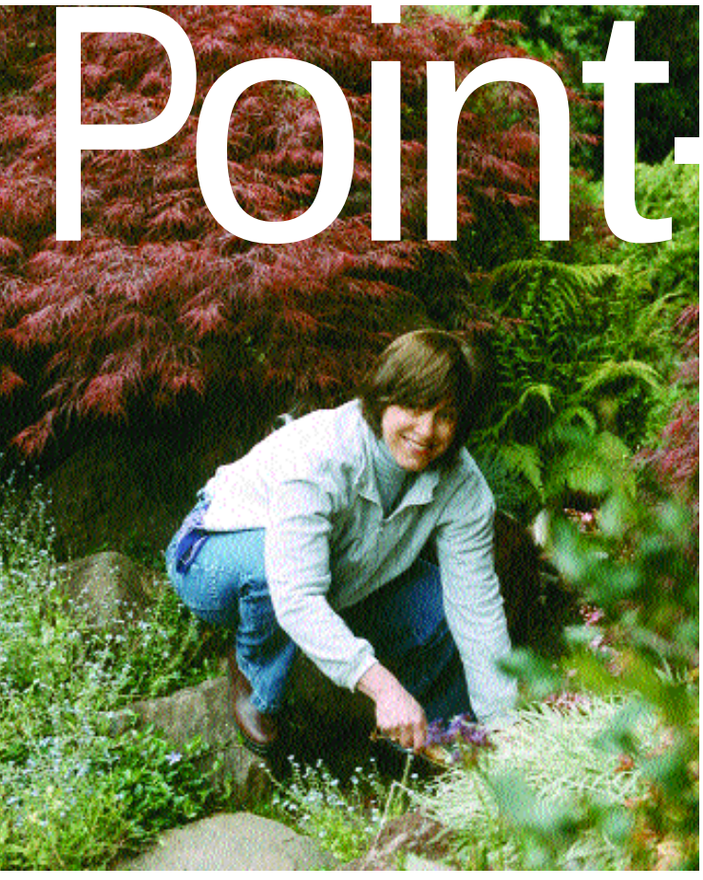
Point-Blank



BY KIM RIBBINK

It takes an exceptional individual to have a vision for a company's future, to meld science with business, and to achieve all this with an unswerving focus. For **Debby Jo Blank, M.D.**, — scientist and business leader at **Genencor** International Inc. — achieving these goals is akin to a marathon, and finding the balance between business and personal pursuits is vital to reaching the finish line.

"IT'S NOT AS HARD AS IT SOUNDS," Dr. Blank responds when asked how she juggles the myriad tasks assigned to her as chief business officer of healthcare and agriculture at Genencor International Inc.

"Genencor has an objective-setting process every year and we run the company by organizing our activities around our objectives. My purpose is to have the projects tie back to our objectives," Dr. Blanks says. "By nature I'm more of a generalist and my world view is broad," she explains. "I'm best suited to the type of role that requires more perspective, more vision, where adding value means having the ability to see the forest rather than just the trees. I'm best at solving problems, at helping companies work out the best strategy to explore. Edward De Bono wrote a great book — "Six Thinking Hats" — about management styles. My style is 'blue-hat' because the blue hat characterizes someone who goes up 30,000 feet and has a vision and has perspective. I have a lot of blue in my management hat."

Dr. Blank's hat may be "blue," but it also encompasses myriad functions. She is charged with managing Genencor's business development and internal programs, including preclinical and clinical drug-development groups and to build new business in healthcare for the company centering on biopharmaceuticals for cancer and inflammation, therapeutic vaccines for cancer and oncogenic viruses, and advanced transgenic mouse models. She also advises Genencor on strategy and deal making in biomaterials and personal care, acts as an investor relations spokesperson for the company at all major conferences, and is involved in the pursuit of a spin-out of a new business as well as the creation of an oncology joint venture (see related box on page 82).

Genencor is a diversified biotechnology company that develops and delivers innovative products and services for the healthcare and bioproduct markets.

Genencor's diversification and integrated set of technology platforms to deliver innovative and sustainable solutions to many of the problems of everyday life, fit perfectly with Dr. Blank's ability to envision the complete picture, which requires a broad knowledge of all aspects of the business — science, marketing, and business strategy. In her almost 20-year career, Dr. Blank has gained invaluable experience in all those skill sets. Developing a big-picture perspective also requires a natural inquisitiveness, which led Dr. Blank into the world of medicine in the first place.

The GENESIS of a Life in Science

After completing her B.A. at Stanford University, Dr. Blank began her career as a hospital sales representative for U.S. Surgical Corp., which launched a love affair with medicine.

"Until that job, I had taken exactly one science course," Dr. Blank says. "Until I began working for U.S. Surgical, I had no idea I was interested in medicine. Since I'd never indicated any interest in the field, when I told everybody that I was going to medical school they thought I was nuts."

The sales rep job put Dr. Blank in direct contact with surgeons.

"I was often in the operating room, helping surgeons learn how to use stapling instruments," she says. "I was so curious about disease states, I began asking the doctors about the problem the patient had, and what hap-

The seeds of success

DEBBY JO BLANK - RESUME

2000 TO PRESENT. Chief business officer, healthcare and agriculture, Genencor International Inc., Palo Alto, Calif. Managing Genencor's entry into healthcare. Completed major strategic planning project and gained board approval for six new initiatives requiring $40 million a year of investment. Reports to CEO and sits on senior-management team. Active in the July 2000 initial public offering. Acts as investor relations spokesperson for company at all major conferences. Manages business development and internal programs, including preclinical and clinical drug-development groups to build new business in healthcare centering on biopharmaceuticals for cancer and inflammation, therapeutic vaccines for cancer and oncogenic viruses, and advanced transgenic mouse models. Pursuing a spin-out of a new business as well as the creation of an oncology joint venture. Advises the company on strategy and deal making in biomaterials and personal care.

MARCH 1999 — 2000. Executive VP, Isis Pharmaceuticals Inc., Carlsbad, Calif. Responsible for investor relations, business and corporate development, strategic marketing and planning, human resources, and administration. Headed Genetrove, the genomics business division.

1996 — 1999. President and chief operating officer, Cypress Bioscience Inc., San Diego. Jointly with CEO led turn-around of publicly traded 80-person company with a FDA approved therapeutic device and pivotal clinical trials to expand indications.

1994 — 1996. Senior VP, marketing, Advanced Technology Laboratories, Bothell, Wash. Responsible for global marketing, including product launches, marketing plans, and marketing communications for general imaging and cardiology product lines. Managed marketing group of 60.

1993 — 1994. VP, marketing, Syntex Laboratories Inc., Palo Alto, Calif. Managed all in-line product marketing activities, including product management, market research, forecasting, advertising, pricing, marketing services. Managed group of 75.

1992 — 1993. VP, worldwide marketing, The DuPont Merck Pharmaceutical Co., Wilmington, Del. Coordinated all marketing activities for in-line products across all markets, including: product launches, line-extensions, clinical studies, budgeting, global branding, international congresses, advisory boards, government pricing, etc. Managed the transfer of Merck products to the European business. Managed group of 45.

1991 — 1992. VP, new product planning and business development, The DuPont Merck Pharmaceutical Co. Responsible for R&D reviews and planning, market forecasts, optimizing clinical development strategy, including selection of initial indication(s),clinical-trial end points, patient subpopulations and clinical site management, preliminary product positioning and pricing, trade marking, trade dress, packaging, manufacturing/inventory forecasts, global market research, and global pre-launch market development. Managed group of 25.

1990 — 1991. Manager, development marketing, E.I. DuPont & Co.,medical products department, Wilmington, Del. Responsible for international marketing planning for all new products.

1989 — 1990. Strategic planning manager, E.I. DuPont & Co.,medical products department. Wrote the business plan providing the analytical and strategic basis for DuPont's decision to form a joint venture with Merck & Co.

1985 — 1989. Senior healthcare consultant. Arthur D. Little Inc., Cambridge, Mass.

1984 — 1985. Internship internal medicine. New England Deaconess Hospital, Boston.

1975 — 1978. Hospital sales representative, U.S. Surgical Corp., Stamford, Conn.

EDUCATION:

1985 — 1997. Three-year Fellowship from The Kaiser Foundation; completed core MBA course work at The Sloan School, Massachusetts Institute of Technology, Cambridge, Mass.

1985. M.D. from Tufts University School of Medicine, Boston.

1975. B.A.from Stanford University, Stanford, Conn.

pened once the surgery was done. I found the hospital experience very exciting, so I decided to enroll in medical school."

Even then, Dr. Blank had no inclination that her decision would lead her into drug-development.

"I thought I was going to be an oncologist," she says. "I was motivated by working with sick or dying patients and their families. I liked the intensity, the human side, but once I went to MIT to study management, I felt this was a much better fit for me."

The combined experience of working as a sales rep and as a medical resident gave Dr. Blank a unique perspective on the challenges of solving scientific conundrums, as well as the complexities of running a business. Her experiences helped her to understand how physicians make decisions, how products get used, how doctors think, how therapy is delivered, how hospitals work, and how technology gets adopted and paid for.

Having been both on the giving and receiving end of hospital sales pitches, Dr. Blank also understood the importance of providing a service to medical staff rather than hard selling a product, which served her well in her various marketing roles.

"I remember how I felt when I was in the hospital talking to sales reps — I just hated it," Dr. Blank says. "I believe it is extremely important to have a very clinical approach to marketing products — more educational than sales focused."

A Long ROW to HOE

Dr. Blank's healthcare career took off early, thanks to her ability to strategically plan and solve problems in a skillful, yet creative way.

"The strategic planning project that I led at DuPont culminated in the formation of the DuPont-Merck joint venture, and that was probably one of my biggest achievements," Dr. Blank explains. "I was hired to help DuPont figure out what to do with their pharma business. Many possibilities were explored — ranging from divesting the business to acquiring other companies. The process that I helped develop, with close involvement from the senior-management team, led to the joint venture. This was the type of project that allowed me to put my problem-solving skills into practice. Within about 11 months of joining the company I was a VP. "

It was at that point that Dr. Blank began to get a clearer picture of her career goals.

"If a person is ambitious and wants to advance there are a lot of different ways to get ahead — through a scientific route, a financial route, or a business route," she says. "My experience at DuPont led me to realize I wouldn't get anywhere if I just stayed in strategic planning — I also needed line-management expe-

rience. I realized I needed a solid track record in sales and marketing, so I decided I was going to use the business side — sales, marketing, and general manager — as my route for advancement."

CULTIVATING Strategic Outcomes

Dr. Blank's diversified skill sets and "blue hat" approach to drug management cultivated her beliefs that a product's success is anchored in developing strategic outcomes for the compound throughout its development cycle.

"Most people are not aware of how difficult it is to figure out the development process of a drug, and how important it is from the very beginning to think about how a drug can be positioned and what group of patients should be involved in the initial study," Dr. Blank says. "Companies need to consider what the goal is for having a drug on the market, and how the product is to be used. Those questions are very much a combination of business and clinical. The function of new product planning, which is the bridge between research and marketing, always interested me. I've spent 20 years of my life focused on that aspect of drug development. I think companies can make terrible mistakes or incredibly smart moves depending on how they develop a drug."

Dr. Blank's goal is to ensure that Genencor takes a well-thought out approach to its clinical trials and eventual product launches. Honing in on the most promising uses for its suite of platform technologies will define Genencor as it continues its clinical research. None of this will happen overnight, though.

"In drug development, the product life cycle is so long," Dr. Blank says. "When designers make a new dress, they make it for the season and four months later they're working on the next season. In drug development, it takes 10 years to 15 years to get a drug to market."

Because of the long development times associated with compound evolution, patience is a required attribute for those on the front lines as well as those who work behind the scenes.

"I'm very motivated to help Genencor make the transition successfully to be a real player on the healthcare side," she comments. "Although I've been at it for two years and we've shown real accomplishments through licensing deals, the real achievements are yet to come and I'm 100% engaged in this task."

It was two years ago when Genencor announced that it would leverage its 20-year history in the development, optimization, and production of proteins into human healthcare. At that time, the company began to execute a strategy, which included the manufacture of protein therapeutics.

The company's and Dr. Blank's near-term goals involve developing protein therapeutic-based products in tandem with pharmaceutical companies that will improve patient response to therapy.

"With some older protein therapeutics, such as Factor 8 for treating hemophilia or beta interferons for treating multiple sclerosis, about 25% of patients develop neutralizing antibodies, which means the drug doesn't work as well," Dr. Blank explains. "One of the specific things Genencor is working on is to determine what piece of the molecule is causing the patient to have an immune response to the product; then we will use our protein engineering to modify the molecule so it doesn't cause that problem. One of my top goals is to begin partnering with pharmaceutical companies around these skills. I work with the R&D organization to make sure that important data are generated to support our skills to pharmaceutical companies."

Digging DEEP

Protein therapeutics is an area that excites Dr. Blank, since she views this as an opportu-


DEBBY JO BLANK

A Natural Connection

IN AN EXCLUSIVE INTERVIEW WITH PHARMAVOICE, DR. DEBBY JO BLANK, TALKS ABOUT GENENCOR'S ONGOING PROJECTS.

HOW IS GENENCOR USING TARGETED ENZYME PRO-DRUG THERAPY TO FIGHT CANCER?

Genencor is using its enzymology and protein engineering skills to create an enzyme that has been modified via a process called directed molecular evolution. The enzyme is designed to bind specifically to a tumor antigen or other cancer-specific cell surface entity. This targeted enzyme is injected into the patient and binds to its target and sits on the tumor. A second injection of a traditional chemotherapeutic agent (the toxic "warhead" that kills cells) is then given to the patient, but the drug is in an inactive state. The inactive warhead circulates in the patient's blood supply until it comes to the tumor and is activated by the tethered enzyme bound onto the tumor. The now activated drug then kills the tumor cells, but does so more preferentially, in that it is activated only at the site of tumor cells. This makes the drug safer than traditional chemotherapy. Genencor is working on TEPT as a novel mechanism to target cancer therapy more specifically to tumor cells.

HOW IS GENENCOR USING PROTEIN THERAPEUTICS AND PHARMACOGENOMIC INFORMATION TO DEVELOP DISEASE TREATMENTS?

Genencor is a fairly typical biotech company in that we're trying to take advantage of important trends in the industry, such as protein thera-

nity to explore a host of treatments for chronic diseases.

"The use of protein therapeutics has completely transformed the way people think about drugs," Dr. Blank says. "It took time for the premise of monoclonal antibodies to come to fruition. At one point it was believed that patients with conditions such as multiple sclerosis, rheumatoid arthritis, or anemia would not tolerate using an injectable drug for the rest of their lives. But they do, and that has opened the door for protein therapeutics, which can have a role that previously wasn't anticipated."

Another area of research that is helping to transform therapy is the growth of pharmacogenomics, which uses genetic information to identify and analyze genes.

"Tailoring therapy for patients' specific genetic background is extremely exciting," Dr. Blank says. "Gathering genetic background is essential, which means a diagnostics exam is necessary to demonstrate if the patient is eligible for the drug."

NURTURE by Example

During her career, Dr. Blank has overseen a variety of groups, from large to small, from R&D to marketing to project management. All, she says, have the same goals and needs.

"People want to learn and be challenged and they want to have fun and feel like they're contributing something that's really important," she says. "That applies to everyone, from a scientist working in the lab to a salesperson working on the road. Whether I'm managing 3 or 300 people, the psychology side of business means I have to have an insight into what makes people tick and how to motivate them."

Creating an environment where her staff can feel what they are doing is important, can give a company its competitive advantage.

"It's soft stuff but it translates into better results and better performance," she says. "I strive to lead by example."

Encouragement, information, and relationships are the keys for Dr. Blank when it comes to managing her staff.

"My management style is very informal, very open, very honest, also personal," she says. "I tend to develop a pretty close personal rapport with the people with whom I work."

There is no better indicator of the lasting impact a manager has had on his or her staff than the longevity of a relationship.

"I have a close network with people who used to work for me and I'm extremely proud of how well many of these people have done," Dr. Blank says. "I stay in close touch with them, and that goes back to establishing a close personal rapport. A lot of women, especially from DuPont, have stayed in touch with me and thanked me and said I was an important role model."

I HAVE A PHILOSOPHY: IT'S A VERY LONG RACE, I'M RUNNING A MARATHON, NOT A SPRINT. A CAREER LASTS A LONG TIME, YOU HAVE TO BE ABLE TO GO ON FOREVER. HOW ONE BALANCES THINGS IN LIFE IS INCREDIBLY IMPORTANT.

In addition, Dr. Blank has seen her influence rub off on the companies at which she has worked. One example she offers is the Genetrove division of Isis Pharmaceuticals.

"The company has had an enormous number of deals stemming from that division, and that was something that I set up, something that I named," she says. "I enjoy watching that division grow."

Dr. Blank clearly is gratified to have been able to play a part in the lives and careers of people with whom she has worked, and is equally grateful to the many people who have helped her to achieve her goals.

Key among those influential people in Dr. Blank's life has been her father.

"When I was little, my Dad would take my sister and I down to his office on Saturdays and he would tell us stories and all these stories — which I refer to as the Alan Blank School of Business — led me to understand what business is all about," she explains. "He was in the insurance business, and when I was 14 I had a solid understanding of the fundamentals of the business. I realized that was unusual since none

peutics and pharmacogenomics. Genencor is the world's second-largest producer of proteins, but only recently did we begin focusing our expertise on protein therapeutics. Many of the drugs we are interested in developing will require patient knowledge. For example, we're working on a human papilloma virus vaccine. More than 90% of cervical cancer is associated with infection from the HPV virus. Currently, women with the disease have surgery to take out part of the cervix. But why take out the cervix to get rid of a virus? Why not have a therapeutic that will get rid of the virus? The trick is that there are many viral strains, and specifically there are 10 or 12 HPV strains that are associated more predominantly with cancer. Also the patient's immunologic background has an impact on how she responds to the virus. When we're engineering our immunotherapeutics for HPV we're taking advantage of information about the particular viral strain and the particular immunologic genetic background of the patient.

HOW IS GENENCOR USING ITS TECHNOLOGY PLATFORMS TO HELP SOLVE "UNCONVENTIONAL" CHALLENGES?

We have two projects on the bio-products side that we've been working on for a long time. We've been working with DuPont on the use of recombinant molecular biotech techniques to make a small molecule called 1,3-propanediol, a key monomer that is used as a polymer. DuPont uses the compound in everything from clothes to carpets to tires to surfboards. Early on, the company encountered a problem in that the traditional chemical synthesis was too expensive. DuPont came to Genencor to determine if the compound could be made using biotechnology rather than chemistry. We have engineered one of our production organisms to make this small molecule, which is a very important ingredient in the polymer. DuPont is very close to rolling out the commercialization of the polymer, which it calls Sorona.

We also have been working with the government to lower the cost of making bioethanol for gas. Bioethanol has always worked well, and is a good alternative fuel source and very clean, but it's not cheap. People don't want to pay a lot for their gas even if it's environmentally friendly. We've developed a process to turn biomass, which is plant matter, into ethanol using our biotech recombinant production systems, and we have extraordinarily lowered the cost. That project also is close to completion.

of my girlfriends understood what their fathers did for a living. He was enormously influential and he was a role model in terms of my ambition."

Others who have helped her along her career path include one of her bosses at DuPont, Joseph Mollica Ph.D., who is now the CEO of Pharmacopeia Inc. and, as Dr. Blank puts it, somewhat coincidentally on the board of Genencor. Dr. Mollica was the one who gave Dr. Blank her promotion at DuPont.

"He was in charge of DuPont's pharma business for about 10 years," she says. "He was a big champion for my career."

Taking TIME to Plant the Roses

Dr. Blank loves her job, the environment in which she works, and the people she works with.

"It's a very non-political, non-hierarchical company and the culture here is very nice," she enthuses. "When I drive to work in the morning, I look forward to getting in."

Demanding though her job is, Dr. Blank enjoys a plethora of out-of-work activities, including gardening, hiking, and running.

"When my husband and I were in San Diego, we had a very nice backyard but all it had was grass and trees," she says. "So we had a gardener come in and give us a quote for putting in some plants, and he came back with a quote of $90,000. That seemed a huge amount of money so I decided to tackle the project myself. Every weekend I would go to the neighborhood greenhouse and get some plants, then get out into the garden, dig in the dirt, do all the planting. It took me almost a year, but I don't think I spent $10,000 and it looked beautiful. I was very proud of the garden because it transformed the yard and I'd never done anything quite that ambitious before."

Enormous though that project was, it is that type of activity that has helped Dr. Blank maintain her enthusiasm for her career.

"I have a philosophy: it's a very long race, I'm running a marathon, not a sprint," she says. "A career lasts a long time, you have to be able to go on forever. How one balances things in life is incredibly important and that's where the gardening and the hiking come in. All those things, especially physical things, are a really good balance for me and are really important to keep me happy so I can work hard." ✦

PharmaVoice welcomes comments about this article. E-mail us at feedback@pharmalinx.com.

An overview of Genencor's healthcare portfolio

Many of the historical problems associated with protein and peptide therapeutics can be addressed by Genencor's technologies. The company's i-mune assay and protein engineering platform allow it to alter a protein's immunogenicity — decreasing immunogenicity for protein therapeutics or increasing the immunogenicity of antigens for therapeutic vaccines. Strengths in structural biology, enzymology, and protein engineering allow Genencor to create proteins with enhanced stability and activity. Through the company's diversity and targeting technologies, it can identify and validate novel drug targets and then use this information to develop novel therapeutics. Genencor has programs ongoing in drug optimization, drug discovery, and production, focusing in the therapeutic areas of inflammation and cancer.

DRUG OPTIMIZATION

As an early-term goal, the company plans to optimize third-party product candidates through its i-mune assay and protein engineering platforms. The i-mune assay determines the allergenic risk of a protein by identifying the epitopes that initiate an immune response. Through protein engineering, these problematic epitopes can be modified, reducing the risk of an allergic response without human testing. Genencor is actively seeking partners for biologic drug optimization.

DRUG DISCOVERY

Genencor's technologies also are being leveraged for the discovery of new therapeutics. For example, the company is exploiting its knowledge of proteases and protease inhibitors for the development of new drugs for inflammation and other important therapeutic areas. Towards this goal, Genencor is using its expertise in protein expression, protein engineering, and bioinformatics in the discovery phase and intends to apply manufacturing and formulation expertise downstream. The company also is using its expertise in exploiting nature's diversity to develop new methods for targeting therapeutics to cancer cells.

TRANSGENIC MODELS

Over the past several years, Genencor has been developing a unique human immunology tool, the i-mune mouse. Upon engraftment of human hematopoietic stem cells, the company believes that it will have developed the first animal model of the human immune system. Genencor also is developing a repertoire of disease models based on its work with transgenic mice and will use these models as tools for screening and target identification, as well as a means to study and evaluate disease development and progression.

THERAPEUTIC VACCINES

Genencor's i-mune assay, or epitope mapping technology, coupled with its skills in molecular evolution give the company the unusual ability to up-regulate a human immune response. Genencor now is leveraging these skills into the development of therapeutic vaccines. Early work in this area will focus on therapeutic vaccines for oncogenic viruses for which it has formed a collaboration with Epimmune Inc. This collaboration will focus on the development of therapeutic vaccine programs for human papilloma virus, hepatitis C, and hepatitis B. The company has strengthened this platform with a worldwide exclusive license to Phogen's proprietary VP22 technology to develop second-generation therapeutic vaccines for infectious viral diseases. Genencor is assembling a full platform of technologies for therapeutic vaccines, including antigen discovery, intracellular delivery and formulation.