

TO STRESS THERAPY, AGRICULTURE

UPJOHN CONSOLIDATES BIOTECH EFFORTS INTO A SINGLE UNIT; PLANS EXPANSION

KALAMAZOO, Michigan—The Upjohn Company, the multinational pharmaceutical concern headquartered here, has formed a biotechnology unit. Since the firm was granted more than 20 biotechnology-related patents last year—easily more than Genentech, Genex, and Cetus combined—the move is a focusing and expansion of its internal efforts, which have largely been applied to pharmaceuticals, rather than a new entry into the field.

"We decided that the money we would spend acquiring and then supporting such a program would be far better off spent in-house," says Jake C. Stucki, Upjohn's vice president for pharmaceutical research and one of the executives instrumental in the new unit's formation. He sees it as a "consolidation into a unit of the biotechnology efforts that were scattered throughout the company," noting that Upjohn has long been working with fermentation in the production of antibiotics and steroids.

Ralph E. Christoffersen, a physical chemistry Ph.D. who had been president of Colorado State University (Fort Collins, CO), came to Upjohn to direct the unit. He says Upjohn decided to form the unit because "a critical mass [of biotechnical expertise] had developed and was now at a point when it could best serve the corporation if it was consolidated." While he declines to discuss the unit's budget, he states, "Five years from now, we hope to have sufficient number and quality of people so that Upjohn will be recognized worldwide as being on the cutting edge of biotechnology." Upjohn actually formed the unit by transferring some 30 to 35 of its own staff, but Christoffersen expects it to "grow dramatically to over 100 over the next few years." These people will come both from industry and academia.

The new biotechnology unit is divided into three areas: molecular biology, biopolymer chemistry, and cell biology. Upjohn already had a molecular biology unit, and incorporated it into the new group; Len Post continues to head this section. Clark Smith leads the biopolymer chemistry section, which, according to Christoffersen, will contain "people who can isolate, purify, and sequence polypeptides and proteins. They will be people who can create oligonucleotides," as well as develop related technologies. Finally, the cell biology section, headed by Robert Gorman, will work on isolation and characteriza-

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Ralph E. Christoffersen heads Upjohn's new biotech unit.

tion of receptors, membrane biology, cell-cell communication, and cell fusion.

Christoffersen is coy when it comes to discussing the unit's specific projects, mentioning only that it will be seeking to develop genetic engineering techniques for improved crop resistance in conjunction with Upjohn's agriculture unit, will be using "the techniques of biotechnology in developing products in the area of fertility research," and will be improving basic research techniques. Some two-thirds of Upjohn's sales last year were in human health care, which will also be the major emphasis of the new unit. "A significant part of our thrust here in biotechnology is in support of our agricultural unit," he adds.

"The biotechnology unit is absolutely supportive of the therapeutics unit, not a driving force itself," says Stucki; "they're not going to define

what we make and sell based on what they can make." The therapeutics units, which include cardiovascular, central nervous system, and infectious disease groups, will determine what substances are needed, and the biotech unit will try to produce these substances, he says.

Ruth Emyanitoff, a market research consultant at Boston Biomedical Consultants (Waltham, MA), sees advantages to this strategy of waiting until the needs of the other units became clearer before forming a biotechnology unit. "They have their horse and their cart in the right order," she says. "We think this is a smart idea for Upjohn. It made some sense for them to hold back for a few years."

Upjohn currently sponsors a limited amount of biotech research at universities, but in line with its increased effort in biotechnology, Stucki says, the company intends to expand this support. While Upjohn maintains no joint venture R&D agreements in biotech yet, he claims the company is discussing possible ventures with other firms. The biotech unit will help Upjohn evaluate such arrangements, he says, because "it provides you with a more easily controlled view of the offerings of the specialty companies."

Christoffersen stresses that his unit will be flexible in terms of possible collaborations. "One needs to make a long term commitment knowing that these techniques are just beginning, and bringing them to the full fruition is going to take decades," he concludes. "It's a long-term, major commitment that I'm very pleased Upjohn has made." —Arthur Klausner

GOVERNMENT SUPPORT UP

ITALIAN BIOTECH ON THE MOVE

ROME, Italy—Biotechnology is attracting a growing amount of attention here. The Federation of Scientific Technological Associations is due to release a report on "Biotechnologies in Italy" this month, and, although biotechnology lacks its own national plan, it is prominently included in the Italian National Research Plans for Chemistry and for Biomedical Technologies. Companies are now beginning to apply for government funding under these programs, approved last July.

The Federation's report—proposed by a Federation-sponsored biotechnology committee in Milan, the

industrial capital of Italy—is sponsored and financed by various economic and industrial groups, including Caboto, Montedison, Banco Popolare di Milano, and Pierrel. Representatives from the committee are interviewing key individuals from private and public research laboratories in the fields of recombinant DNA, monoclonal antibodies, protoplast fusion, and plant cell culture. The report aims to provide a clear picture of the state of the art of biotechnology in Italy as compared to other countries, to evaluate the financial support available, and to make proposals for additional financial