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of late in taking huge stakes in biotechnology companies. It was not always so. Ten years ago, in 1986, Bristol-Myers Squibb (New York) bought Genetic Systems (Redmond, WA) for $294 million and Eli Lilly (Indianapolis, IN) acquired Hybritech (San Diego, CA) for $480 million. In 1991, American Home Products (AHP, Madison, NJ) paid the devilish sum of $666 million for a 60% stake in Genetics Institute (Cambridge, MA). And in 1992, an American Cyanamid (Wayne, NJ) subsidiary, Lederle, spent $730 million on a substantial stake in Immunex (Seattle, WA). Since that time, perhaps chastened by the experience, U.S. companies have been much less active and expansive biotechnology buyers.

Early links with U.S. biotechnology has proved to be nicely profitable for European pharma giants.

In 1994, Eli Lilly did pay $70 million plus for Sphinx Pharmaceuticals (Durham, NC) principally to gain exclusive ownership of its combinatorial library. At the beginning of 1995, Marion Merrell Dow (Kansas City, MO), itself later acquired by Hoechst (Frankfurt, Germany), bought Selectide (Tucson, AZ). At the end of the year, American Home Products was bidding to buy the 54.7% of Immunex it did not already own (via its 1994 multibillion dollar acquisition of American Cyanamid) for $263 million, or $14.50 a share. And in agricultural biotechnology, the "merger" between Monsanto (St Louis, MO) and Calgene (Davis, CA) was, in truth, a $230 million acquisition of 49% of Calgene. Lilly, Pfizer (New York), and other U.S. companies have also recently concluded a series of other deals. But in relative terms, the scale of the investments has been small.

Is there a rational explanation for this? Perhaps so. Part of the answer lies in the strategic ambitions of drug companies on either side of the Atlantic. Generally speaking, European companies tend to be innovation-driven in their approach to pharmaceutical markets, with a great emphasis still on R&D, while many U.S. firms are more market-led and are focusing on the consumers of their products. Merck (Rahway, NJ), after all, bought Medco (Research Triangle Park, NC), not Amgen (Thousand Oaks, CA). A focus on innovation means that companies cannot avoid biotechnology.

Many European pharmaceutical companies, particularly those in Germany and Switzerland, claimed that bureaucratic delays and overburdensome regulations forced them to invest in research in the U.S. But then it became a habit, and they graduated from "soft" investments in medical schools, universities, and institutes to "hard" corporate buyouts. Acquiring equity stakes in U.S. biotechnology companies looks like a fairly inexpensive way to access top-rated technology and scientists, certainly less expensive than establishing satellite organizations and facilities.

Moreover, early links with U.S. biotechnology have proved to be nicely profitable for European pharma giants. Roche, for example, acquired key foreign rights from Amgen for Neupogen for a mere $35 million when the cancer drug was still in clinical trials. Roche's share of the drug's sales are estimated to be worth some $250 million a year.

On the part of the biotechnology companies, it may be in the interest of the management to recommend a sale to a buyer from another continent on the grounds that there is geographical and business complementarity. After swallowing the prey whole, the "predator" is less likely to spit out large chunks of unwanted corporate infrastructure.

U.S. pharmaceutical companies may still be wary of biotechnology following the disappointing outcomes from the big acquisitions made during the mid 1980s. Both Eli Lilly and Bristol-Myers Squibb have since divested most of the businesses they bought. These days, U.S. pharmaceutical firms quietly prefer to go for multiple deals with small biotechnology firms.

—Mike Ward

Canadians also strong in alliances

MONTREAL—Last year saw Canadian biotechnology companies forming strategic alliances, marking an evolution from research to commercialization in that sector.

Several occurred in January 1995. Hemosol (Toronto, Ont.) forged a European development and marketing alliance deal worth a total of C$40 million with Fresenius (Bad Homburg, Germany). The deal provided that, after successful completion of clinical trials, Fresenius will assume responsibility for commercial-scale manufacturing of Hemolink and will pay Hemosol a royalty based on product sales. Fresenius would obtain exclusive marketing rights in Russia, Africa, the Middle East, and Europe (excluding the Netherlands), thereby bringing Hemosol product marketing and delivery to several international markets.

Also in January, Allelix Biopharmaceuticals (Toronto, Ont.) signed a C$15 million financing over four years with Eli Lilly Canada (Scarborough, Ont.) to research drugs for central nervous system disorders. Later that same month, Allelix signed a five-year, C$53 million research and development alliance with Hoescht-Roussel Canada (Regina, Sask.) and Hoechst-Roussel Pharmaceuticals (Somerville, NJ) to accelerate the discovery and development of drugs for psychiatric disorders. Hoechst-Roussel would be responsible for all clinical trial costs.

BioChem Pharma Inc. (Laval, Que.) forged a C$30 million strategic alliance with a U.S. consumer products company, Warner-Lambert (Morris Plains, NJ) in July. This deal concerned the development of an anticoagulant drug for thrombosis and brought BioChem Pharma both upfront and milestone payments. BioChem has marketing rights in Canada and Europe, with Warner-Lambert retaining the U.S. and Japanese markets. With this deal, and the recent approval of its nucleoside drug for AIDS, 3TC, Biochem Pharma has established a leadership position in Canadian biotechnology.

For Canadian companies as for others, alliances give access to important international markets and validate their technology.

—André H. Uddin

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