

## EQUAL PARTNERS

## JAPANESE JOINT VENTURES COME OF AGE

NEW YORK—Over the past decade, Japanese companies have invested about \$500 million in U.S. biotechnology. Yet such investment has come at a high price, as in return for Japanese funds, U.S. companies have typically forfeited the rights to sell their future products in Japan's \$30-billion annual drug market.

U.S. biopharmaceutical firms are beginning to see Japan as a market, however, instead of merely a source of capital. Through joint ventures set up this summer, Cell Genesys (Foster City, CA) and Cygnus Research (Redwood City, CA) guaranteed themselves a 50-percent slice of the Japanese sales of their future products. Last summer Genetics Institute (GI, Cambridge, MA) also cut a joint-venture deal to ensure a half share of its future product sales in Japan. "Biotech companies are recognizing that pharmaceuticals is a global game. They need to participate in the Japanese market to get a bigger profit from the same research effort," says Tuan Ha-Ngock, GI's executive vice president of corporate development.

Two shared characteristics allowed GI, Cygnus, and Cell Genesys to set up these joint ventures. All three companies possess cutting-edge technology. And none of the three are so strapped for cash that they need to

*U.S. biotech companies aren't so strapped for cash that they need to sell their technology simply to keep going.*

sell their technology simply to keep going. "The more mature biotech companies can keep control of their technology to maximize profits," says David de Weese, Cygnus's president and chief executive officer.

Along with fattening future revenue, Japanese joint ventures offer an added benefit. Such ventures are one of the best ways for U.S. biotech companies to penetrate the Japanese market, which tends to exclude for-

eign companies unless they're closely allied with domestic firms.

But biotech executives don't foresee a wave of such joint ventures. "They'll happen on a company-by-company basis, when two firms meet on even footing," says Cygnus's de Weese. Among Japanese companies, those looking to diversify their business through biotechnology will likely be most interested in such hook ups. Indeed, about 240 big and mid-sized Japanese companies have begun biotech programs, with several non-drug firms focusing on biopharmaceuticals, including Suntory, Sumitomo, and Kirin Brewery, all of which are headquartered in Tokyo.

Cell Genesys, for its part, joined up with JT Immunotech USA (New York), a wholly owned subsidiary of Japan Tobacco (Tokyo). The 50-50, worldwide joint venture will develop and commercialize human monoclonal antibodies either directly or through sublicensing agreements with other drug companies. The Cell Genesys technology at the core of the agreement is a mouse strain that researchers are developing through homologous recombination. The technique allows scientists to replace a mouse's antibody genes with human antibody genes, enabling production of fully human antibodies. Such monoclonals—which are less likely than conventional mouse monoclonals to cause an allergic response in patients—could treat chronic diseases like arthritis and organ-transplant rejection.

Cygnus—a specialist in transdermal drug delivery—teamed with Nichiban (Tokyo). The 50-50 joint venture will develop and manufacture transdermal drug-delivery systems for Japanese drug companies, which, in turn, will market the products. "The joint venture not only makes it easy for Japanese companies to do business with us, it gives us first-hand knowledge of local clinical and regulatory requirements," says de Weese.

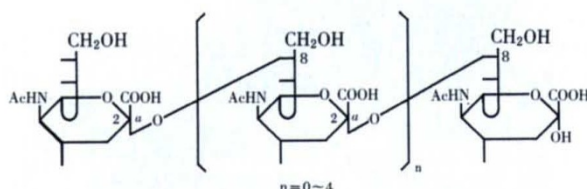
GI hooked up with Yamanouchi Pharmaceutical (Tokyo) in a 50-50 joint venture to commercialize and market in Japan GI's bone morphogenetic proteins (BMPs), as well as other future GI products. BMPs, which stimulate cartilage and bone growth, could substitute for existing bone-graft materials and treat bone loss from periodontal disease and certain cancers. GI pegs the BMP worldwide market at over \$2 billion annually.

—B.J. Spalding

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