

Shaman's \$45 million IPO is quarter's biggest

NEW YORK—With a medicine man and a drug-discovery method exotic enough for Hollywood to build a movie around, Shaman Pharmaceuticals (San Carlos, CA) might seem the stuff of science fiction. Yet, on January 27, Shaman announced that it had started an initial public offering (IPO) of 3 million shares at \$15 per share, this after it had raised the price from \$14 and increased the offering by 500,000 shares. In the most prosperous IPO of this year's first quarter, Shaman raised \$45 million, enough to fund its current level of operations until 1995.

Tropical rain forests, home to a majority of the planet's plant species, are a treasure trove of potential pharmaceutical products. And while some pharmaceutical heavy hitters are busy rummaging through the rain forests for potential products—including SmithKline Beecham (Middlesex, UK), Glaxo Holdings (London), and Merck (Rahway, NJ)—Shaman's approach sets it apart from the other players. Shaman employs teams of physicians and ethnobotanists—researchers who study how native

people use plants—to identify diseases and the plants traditionally used to treat them. This approach significantly increases the chances of finding a viable plant pharmaceutical.

Yet since incorporating in 1989, Shaman has only lost money, to date \$13.3 million. In addition, Shaman relies heavily on its supply of materials, which could turn sour at any moment. Given the unstable political climate in the regions containing the rain forests, the concern over access to supply is palpable. Even with access, there is uncertainty over whether Shaman could harvest, in a sustainable manner, enough of the raw materials to engage in the mass production of a drug, should it get approved.

For the present, though, Shaman has won the support of three major pharmaceutical companies: Eli Lilly (Indianapolis, IN), Merck, and Inverni della Belfi (Milan, Italy).

• With Lilly, Shaman will develop antifungal drugs. Shaman will isolate active plant compounds, and Lilly will, for four years, conduct clinical tests of the compounds of its choice. In exchange for mile-

stone payments, manufacturing rights, and royalties, Shaman will give Lilly worldwide marketing rights to the compounds. Lilly has also made a \$4 million equity investment in Shaman.

• Merck will screen extracts that Shaman thinks fit into the category of analgesia or diabetes. In exchange, Merck gets the right to negotiate first for any interesting compounds.

• Inverni will, at its own expense, scale up the production of SP-303, the active component of Shaman's Provir, an oral antiviral for respiratory ailments that should soon enter phase II trials. Inverni will also pay Shaman royalties on Provir, in exchange for nonexclusive rights to the compound in the Italian market. Shaman, for its part, will buy 40 percent of its SP-303 from Inverni for five years after obtaining Provir approval. Inverni has invested \$500,000 in Shaman equity.

Shaman is also developing Virend, a topical drug for herpes infections that are resistant to acyclovir, the only available herpes drug. Virend is currently in phase I/II trials.

—Mark Goodstein

Shaman uses physicians and ethnobotanists—researchers who study how native people use plants—to identify diseases and the plants used to treat them.

Latvian biotech firm busted for selling speed

RIGA, Latvia—Latbiofarm (Olaine, Latvia)—the state-owned biotechnology enterprise currently at the center of a police investigation into the manufacture and illicit sale of amphetamines—is involved in collaboration talks with a number of multinational drug firms. Latvia's Ministry of Trade (MoT) named four firms as the main contenders for a contract to provide LatBiofarm with raw materials. They include Rivopharm (Basel, Switzerland), Medinet International (Helsinki, Finland), Sumitomo (Tokyo), and Germed, Megachem & Helm (Berlin, Germany).

These firms may be offered the chance of acquiring shares in Latbiofarm in lieu of payments for raw materials delivered. A second option being considered involves licensing agreements, whereby the firms could avail themselves of Latbiofarm's production capacity to manufacture their own products

for the Baltic and Russian markets.

Latvia's biggest biotechnology concern, Latbiofarm produces animal and human growth hormones, as well as crude penicillin. While 15 percent of its production is sold locally, the rest is exported to Estonia, Lithuania, Russia, and Belarus.

The police investigation into Latbiofarm continues, with a final report due to be presented to the government in June. The firm will remain under state control until the investigation has been fully resolved, which means that state plans to privatize Latbiofarm may be delayed by as much as a year.

A preliminary police report, based on statements from senior managers at Latbiofarm, reaffirmed MoT's initial view that the company's management had converted production over to the manufacture of amphetamines to earn hard currency. MoT states that "not all" of the profits earned from the unautho-

rized sales were returned as development capital to upgrade Latbiofarm's production, as some of the firm's managers had contended.

A joint inquiry by MoT and Interpol, an international police agency, examined Latbiofarm's order-and-supply ledgers only to find that during 1991 and 1992 the company had produced 3 tons to 5 tons of synthetic drugs using the amphetamine-precursor izosafrol. A police raid led to the impounding of seven boxes of amphetamines, packed in containers awaiting shipment, with an estimated street value of \$16 million. Illegal shipments were distributed via Czechoslovakia to European markets. Fully \$1 million was also confiscated. Latbiofarm officers arrested include general manager Ilmars Penkc and deputy manager Alexander Kulikovs.

—Gerard O'Dwyer
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Latbiofarm's management made amphetamines to earn hard currency. Yet not all of the profits were used to upgrade facilities.