

A \$2-BILLION MARKET BY 1996

# CSFs CELEBRATE SUCCESSFUL DEBUT

NEW YORK—Colony stimulating factors (CSFs)—a family of hormones that stimulate white-blood-cell production—enjoyed a lucrative launch last year, with three companies racking up sales of \$272 million. Combined CSF sales should skyrocket to \$2 billion by 1996, moreover, as more companies introduce more products with more indications.

Amgen (Thousand Oaks, CA) was last year's big winner. Its product, granulocyte-colony stimulating factor (G-CSF), totaled \$232 million in 1991 sales. Approved as an adjunct to cancer chemotherapy, G-CSF is currently in clinical trials for six more indications, including infectious disease. Analysts foresee the product continuing its dominance of the CSF market, with sales topping \$1 billion in 1996.

Immunex's (Seattle, WA) product, granulocyte macrophage-colony stimulating factor (GM-CSF), placed a distant second. Approved for bone-marrow transplants, GM-CSF had sales of just \$34 million last year. And analysts see receipts from GM-CSF—currently in clinical studies for two more indications—topping out at \$100 million. Hoechst-Roussel Pharmaceuticals (Somerville, NJ)—through a co-marketing agreement with Immunex—sold about \$14 million worth of GM-CSF last year.

## Why Amgen won

Several factors account for Amgen selling nine times more CSF than Immunex. Perhaps most important, Amgen has access to a bigger market. In winning approval from the U.S. Food and

Drug Administration (FDA, Bethesda, MD) to market its G-CSF for cancer chemotherapy, Amgen got a shot at 1 million U.S. patients a year, with G-CSF treatment costing \$4,000 a patient. When Immunex, on the other hand, gained FDA's okay to sell its GM-CSF for bone-marrow transplants, it got access to just 7,000 U.S. patients annually, with GM-CSF treatment running \$3,400 per patient.

Amgen's product also causes fewer side effects. Its G-CSF is more specific, stimulating granulocyte white blood cells to divide into infection-fighting neutrophils, which make up about 70 percent of white

ing CSF competition. Sandoz Pharmaceuticals (E. Hanover, NJ) and Schering-Plough (Madison, NJ) have teamed up to develop GM-CSF. Sandoz is also working with Genetics Institute (Cambridge, MA) to make interleukin-3, perhaps the broadest-acting CSF. And Rhone-Poulenc (Courbevoie Cedex, France) and Chugai Pharmaceutical (Tokyo) are working together to make G-CSF.

## Sharing market shares

All these products will capture market shares, says Karl Habermas, an analyst

*Amgen was last year's big winner, with its G-CSF racking up \$232 million in sales. The product should continue to dominate the CSF market, with sales topping \$1 billion by 1996.*

blood cells in the blood. In contrast, Immunex's GM-CSF is multipotent, promoting growth of both granulocyte and macrophage white blood cells. Granulocytes then produce neutrophils, as well as infection-fighting basophils and eosinophils. A common side effect of Immunex's GM-CSF is low-grade fever.

Amgen and Immunex will see increas-

at Gerard Klauer Mattison (New York). He sees the U.S. market for CSFs reaching \$1.3 billion by 1996, with Amgen's G-CSF leading the way, with sales of \$800 million, followed by Schering/Sandoz's GM-CSF, with \$165 million in sales. Habermas foresees the CSF market in Europe totaling \$625 million in 1996. As in the U.S., Amgen's G-CSF will rank first, with \$275 million in sales, and Schering/Sandoz's GM-CSF will follow, with sales of \$150 million, says Habermas.

Several factors should contribute to the strong showing of Schering/Sandoz's GM-CSF. The companies are seeking FDA approval to treat patients with low white-blood-cell counts. Such a broad approval would give Schering and Sandoz access to huge infectious-disease and cancer-chemotherapy markets. To support their application, moreover, the firms have enrolled over 3,000 patients in clinical trials for 12 indications.

Marketing experience should also benefit Schering/Sandoz's GM-CSF. Schering has already proven its marketing savvy with alpha interferon. The product—which had worldwide sales of about \$250 million last year—is currently on the market in 51 countries for 11 cancers and five viral infections.

Without a doubt, the CSF market is wide open. "Growth should only accelerate," says Habermas. —B.J. Spalding

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