



Pioneering science delivers vital medicines™



# Amgen Manufacturing

At Amgen, one of the many important ways we fulfill our mission to serve patients is by producing vital medicines in sufficient quantity to meet patient demand, while following good manufacturing practices to ensure that our products meet our high standards for safety and potency.

Manufacturing biotechnological medicines is a highly specialized activity, and Amgen is a leader in the field. The company's state-of-the-art biotechnology manufacturing and process development capabilities help us to realize the potential of our pipeline for patients around the world.

Scalable, flexible, and committed to safety and reliability, our capabilities in process development, manufacturing, quality and supply chain management are continually growing. Amgen is continually monitoring capabilities in those areas to meet future needs.

## A Pioneer in Biotechnology Manufacturing

Manufacturing therapies based on proteins found in the human body is a complex process. In the biotechnology industry, therapeutics are manufactured using living organisms that contain the genetic code for the specific molecule being produced. Precisely controlling the manufacturing process and environment is necessary to obtain consistent results and to ensure efficacy and safety.

As one of the industry's original innovators, Amgen has extensive knowledge and first-hand expertise in clinical and commercial manufacturing of biotechnology-based medicines. We have an outstanding track record of regulatory compliance, thanks to stringent controls and a superior quality system. We have world-class capabilities in process development and continually innovate newer and more efficient ways to produce therapies using biotechnology. Most importantly, we have a track record of safety and reliably delivering medicines to patients who need them.

### QUICK FACTS

#### Locations

- Fremont and Thousand Oaks, California
- Boulder and Longmont, Colorado
- Juncos, Puerto Rico
- West Greenwich, Rhode Island
- Bothell, Washington

#### Key Functions

- Process Development
- Manufacturing (clinical, bulk, formulation, fill and finish; contract manufacturing)
- Quality and Regulatory Compliance
- Supply Chain Management
- Environmental Health and Safety
- Operations Planning
- Corporate Engineering and Capital Projects

#### Principal Protein Therapeutics Manufactured

- Aranesp® (darbepoetin alfa)
- Enbrel® (etanercept)
- EPOGEN® (Epoetin alfa)
- Kevivance® (palifermin)
- Kineret® (anakinra)
- Neulasta® (pegfilgrastim)
- NEUPOGEN® (Filgrastim)
- Vectibix™ (panitumumab)

#### Contact

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## ABOUT AMGEN

Amgen (NASDAQ: AMGN) discovers, develops and delivers innovative human therapeutics. A biotechnology pioneer since 1980, Amgen was one of the first companies to realize the new science's promise by bringing novel medicines from lab, to manufacturing plant to patient. Amgen therapeutics have changed the practice of medicine, helping millions of people in the fight against cancer, kidney disease, rheumatoid arthritis and other serious illnesses. With a deep and broad pipeline of potential new medicines, Amgen remains committed to advancing science to dramatically improve people's lives. To learn more about our pioneering science and our vital medicines, visit [www.amgen.com](http://www.amgen.com).

## Amgen Operations Locations

### California

Amgen has long had protein manufacturing capabilities at our Thousand Oaks headquarters. The site has a proud history as Amgen's first manufacturing location. Going forward, Thousand Oaks will increasingly focus on clinical operations. In 2006, with the acquisition of Abgenix Inc. in Fremont, we expanded our development and production capability for human monoclonal antibodies. The 100,000-square-foot manufacturing facility in Fremont manufactures Vectibix™ (panitumumab), an entirely human, monoclonal antibody cancer therapeutic.

### Colorado

Amgen has two manufacturing facilities near Boulder, Colorado: Longmont and LakeCentre. Longmont is responsible for bulk manufacture of EPOGEN® (Epoetin alfa) and Aranesp® (darbepoetin alfa). LakeCentre manufactures Kineret® (anakinra), Kevivance® (palifermin) and a number of product candidates in late-stage clinical development.

### Puerto Rico

Amgen has developed a state-of-the-art biotechnology campus for bulk manufacturing in Juncos, Puerto Rico, with biologics manufacturing capability, expanded full-testing quality analytical labs, formulation, fill and finish capability, warehouses, process development facilities, administrative and training buildings, a cafeteria and a child care center. Amgen Puerto Rico's bulk manufacturing facility produces a variety of medicines available to patients today, including NEUPOGEN® (Filgrastim), Neulasta® (pegfilgrastim) and Aranesp® (darbepoetin alfa).

### Rhode Island

Amgen's facility in West Greenwich, Rhode Island, manufactures Enbrel® (etanercept) in bulk substance form. The first Amgen plant in West Greenwich received FDA approval in December 2002, and a new plant received FDA approval in September 2005. The new plant houses one of the world's largest mammalian protein manufacturing facilities as well as administrative, utilities and quality analytical laboratory buildings.

### Washington

Amgen's Process Development and Cell Culture facilities in Bothell are devoted to developing cost-effective manufacturing processes to yield the highest quality products as well as material for clinical studies.