

Thermo Fisher just opened a \$180 million plant. Executives already are talking about expanding.

By Jonathan Saltzman Globe Staff, Updated September 20, 2023, 8:59 a.m.



Scientist Nour Tabidi prepares a DNA sample in a lab at Thermo Fisher's recently opened manufacturing plant in Plainville. The plant specializes in gene therapies. JOHN TLUMACKI/GLOBE STAFF

PLAINVILLE — Thermo Fisher Scientific's giant plant to manufacture gene therapies for drug companies is barely a year old, but executives at the maker of scientific tools are already talking about expanding.

Standing inside a cavernous unfinished section of the plant, Paul Fitzgerald, vice president and general manager of the site, told a group of biotech executives, journalists, and other visitors that he's eager to transform it into laboratories. So far, the company is only using about 290,000 of the plant's more than 400,000 square feet.

“I look forward to you guys giving us a reason to fill up this space,” Fitzgerald quipped during a tour Tuesday of the plant.

“I’d love to,” said Tom Klima, chief commercial and operating officer at Bluebird Bio, a Somerville drug company that hired Thermo Fisher to make a sickle cell gene therapy awaiting approval from drug regulators by Dec. 20.

Thermo Fisher, the most valuable publicly traded company based in Massachusetts, with a market cap of about \$196 billion, opened the plant in August 2022. The two-story building — and the \$180 million Thermo Fisher spent to build it — underscored the company’s commitment to the growing field of gene therapy, cutting-edge medicines that have given hope to people with deadly inherited diseases.

Drug companies hire Thermo Fisher to develop, test, and manufacture “viral vectors,” the key component in gene therapies. The vectors are viruses modified to carry a normal functioning gene into cells to replace a defective gene causing an inherited disease. Gene therapies are intended to be a one-time treatment.

Since 2017, the Food and Drug Administration has approved more than a half-dozen gene therapies. The medicines include two from Bluebird Bio: one for beta thalassemia, a rare inherited blood disorder, and another for cerebral adrenoleukodystrophy, or CALD, an ultra-rare, but usually fatal genetic condition that causes a rapid loss of cognitive and physical abilities in children.

Gene therapies are breathtakingly expensive — Skysona, the treatment for CALD, costs \$3 million per patient. But a Boston drug-pricing watchdog group, the Institute for Clinical and Economic Review, has said some of the medicines may be worth it given the costs of treating devastating diseases over a lifetime and the benefits to patients and families.

The Plainville plant is Thermo Fisher’s fifth viral vector manufacturing facility. The company also has a plant in Cambridge, another in Lexington, and two in Belgium. The

newest plant is Thermo Fisher's biggest, and one of the largest in the world, according to Cédric Volanti, vice president and general manager of viral vector services at the Waltham company.



The Plainville plant is Thermo Fisher's fifth viral vector manufacturing facility. JOHN TLUMACKI/GLOBE STAFF

“We are playing an important role for the medicine not of the future but the medicine right now that can treat and cure extremely debilitating diseases,” Volanti said before the tour.

Although Thermo Fisher declined to identify which drug companies have hired it to make gene therapies and related treatments, Volanti said his firm was manufacturing medicines for Duchenne muscular dystrophy, sickle cell disease, multiple myeloma, Parkinson's disease, deafness, and central nervous system diseases.

Thermo Fisher gets detailed instructions from drug makers about how the gene therapy should work and then manufactures it to rigorous standards. A Thermo Fisher executive likened the process to a baker who gets a recipe for a cake.

It takes Thermo Fisher nine months to a year to manufacture a gene therapy that can be tested on humans in early-stage clinical trials, company officials said. Thermo Fisher can make about a dozen gene therapies at the Plainville plant simultaneously.

Bluebird Bio wasn't the only customer on the tour. Two executives from a small San Francisco-based startup, NysnoBio, also attended. NysnoBio has hired Thermo Fisher to manufacture a gene therapy for a form of Parkinson's disease caused by a mutated gene, according to Jennifer Johnston, founder and CEO of the company. This form of the disease strikes people as young as 15 years of age, she said.

The plant has 180 employees, but Thermo Fisher plans to increase that to 300 in the next two years. The company has more than 4,000 employees at 18 facilities in Massachusetts, including its corporate headquarters in Waltham. The firm has some 125,000 employees worldwide.



Abbie Martin, director of business communications at Thermo Fisher Scientific, walked by a DNA strand painted in one of the hallways of the company's Plainville plant. JOHN TLUMACKI/GLOBE STAFF

It made a significant commitment to gene therapy in 2019 when it bought Brammer Bio, a Cambridge manufacturer of viral vectors, for about \$1.7 billion.

Puneet Souda, an analyst for the Boston investment bank Leerink Partners, said Thermo Fisher's investment in gene therapy was shrewd because a growing number of companies are developing these treatments and need someone they trust to manufacture them.

"It's a multibillion dollar market," he said. "Innovation in tools is the key to driving costs down and scaling volumes."

Jonathan Saltzman can be reached at jonathan.saltzman@globe.com.