



Michael Vosburg / Forum Photo Editor

Development and production scientist Donovan McGinley-Coleman demonstrates filling the wells of a test tray in a biosafety cabinet April 21 at Genovac in the business incubator at North Dakota State University in Fargo.

# Looking for antibodies and answers

Fargo firm is global leader in research that could lead to new drugs, vaccines

**By Patrick Springer**

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**Fargo**

**G**enovac is a biotechnology company that specializes in discovering antibodies that can be used to make vaccines and other drugs — including antibodies that are effective in neutralizing two troublesome variants of the coronavirus.

Founded in Germany more than 20 years ago, Genovac was acquired by Fargo-based Aldevron but recently became a



**Walters**

separate company based at the technology park on the campus of North Dakota State University.

Brian Walters, a former executive at Aldevron,

led a management buyout of the antibody discovery unit of Aldevron and resurrected the name Genovac, which is a leading firm in the field with roots in Freiburg, Germany, where it still

maintains operations.

“There’s some brand recognition still within the marketplace,” Walters said of Genovac, which was founded in 1999 and acquired by Aldevron in 2004. It has completed 3,500 antibody projects.

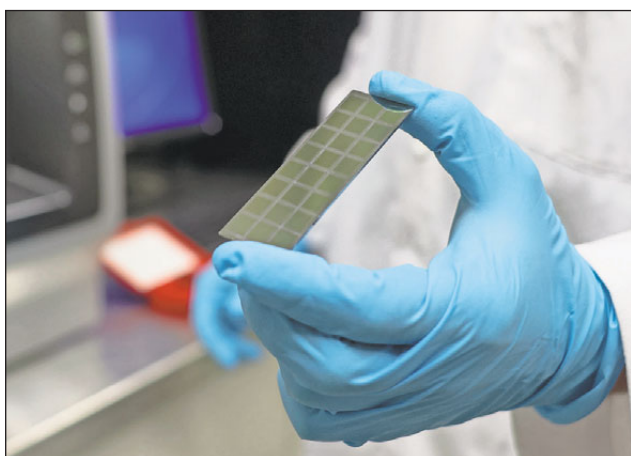
“The industry historically has come to Genovac for challenging, difficult targets,” which are disease-causing pathogens or forms of cancer, Walters said. “We’ve been doing it for over 20 years and definitely have more experience worldwide than anybody else.”

Genovac is what’s called

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# ANSWERS

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A slide with thousands of test sites is used in a revolutionary antibody discovery process April 21 at Genovac in Fargo.

situations,” Walters said.

Examples of biologic drugs derived from antibodies include Humira, used to treat rheumatoid arthritis and other inflammatory diseases, and Regeneron, an antibody treatment for COVID-19. Antibodies can be used to treat a wide variety of diseases and even are used for pain management, Walters said.

Biologics involve very large molecules, such as antibodies, proteins or gene technology applications, as opposed to traditional drugs, derived from chemistry.

Genovac’s Fargo operation will involve discovery of promising antibodies as well as manufacturing the resulting drugs. It also will catalog each antibody’s attributes, a process called characterization, a key step in developing any drugs.

“We do a lot to understand each antibody we generate,” including whether it binds to its target and works as intended, such as blocking a cellular signal, Walters said.

Genovac will be hiring scientists with backgrounds in cellular biology, molecular biology, immunology and virology. The company is working with NDSU and University of North Dakota researchers on projects and is seeking partnerships with other researchers in the area.

A growing biotechnology sector is taking root in Fargo, with Aldevron, with about 600 employees, at the center. “I think Genovac will play an instrumental piece in that,” Walters said.

Newly discovered

antibodies that produce new drugs have the potential to give rise to new companies, so a cluster of companies eventually could stem from Genovac, he said.

“A lot of companies form around a product,” Walters said. “Every project that we complete is potentially a new product.”

Before joining Aldevron, Walters was executive director of the Greater Fargo Moorhead Economic Development Corp., where he worked to promote Fargo’s emerging biotechnology presence. “That requires bringing certain enabling technologies to the area,” he said.

A growing biotech industry would help boost North Dakota’s research and development standing, which now ranks near the bottom of states. “To me it’s the next wave of economic diversification for the state,” Walters said.

Brian Kalk, executive director of the NDSU Research and Technology Park, said Genovac’s presence on campus broadens the scope of startups, many of which are involved in computer software development.

“I’m excited to see what that might bring,” he said. Many of those involved in software startups at the research park came from Microsoft’s Fargo campus. Aldevron, Genovac and other biotech firms could produce similar spinoffs, he said.

Also, Kalk said, “It’s a new pathway for NDSU graduates,” providing jobs for students with a background in cellular and molecular biology.

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a contract research organization that discovers and develops antibodies for therapeutic, diagnostic and research and development markets. It has clients in North America, Europe, Australia and Asia.

Antibodies are proteins made by the body’s immune system to fight infections.

Genovac is leasing 8,500 square feet of space at NDSU for its laboratories and offices. “It’s about the same footprint as our footprint in Germany,” Walters said.

The company has about 30 employees in Germany, mostly researchers, and has a core staff of five in Fargo expected to expand to 20 or 30 within the next 12 to 18 months, Walters said.

Because the United States is the center of biotechnology, it’s important to have a location where most of Genovac’s customers are, Walters said. Fargo is Genovac’s logical home given the company’s past association with Aldevron, the industry’s leading contract manufacturer of DNA, proteins and enzymes, he said.

“I’m really familiar with the marketplace,” Walters said. “It’s a very cost-effective location to work from,” with a customs office and good service from UPS and FedEx. “It makes (Fargo) as good a place as anyplace in the country and better, I would argue.”

The use of antibodies to make vaccines and other drugs is a growing part of the biopharmaceutical industry, an approach Walters said has been given a tremendous boost by the coronavirus pandemic.

That presents lots of opportunities, he said, as new technologies have emerged, fueling growth in biotechnology.

Genovac’s genetic immunization technology enables rapid antibody discovery and uses the most advanced screening technology. That means it can discover and develop antibodies for infectious diseases such as COVID-19 in days instead of months required by traditional methods.

“Because of our experience, expertise and technology advantages, we can respond to clients’ and society’s needs faster, and that can be crucial in outbreak, epidemic and pandemic