VENTURE CAPITAL

Genomic-Medicines Startup Tome Biosciences Fetches $213 Million

By Brian Gormley, WSJ Pro

Good day. U.S. regulators last week approved the first Crispr-based gene-editing therapy for the treatment of the blood disorder sickle-cell disease. Startups including **Tome Biosciences** aim to advance the field further.

The treatment **Vertex Pharmaceuticals** and **Crispr Therapeutics** developed edits a gene to enable production of a form of hemoglobin that compensates for the misshapen version of this protein found in patients with sickle-cell disease, which causes painful blood-vessel occlusions.

Crispr gene editing alters specific letters of genetic code. Watertown, Mass.-based Tome, which disclosed $213 million in Series A and B venture financing this week, envisions wider-scale rewiring.

Tome says its technology can insert large sequences of DNA anywhere in the genome. Its approach involves combining Crispr with enzymes known as integrases to enable more-extensive DNA manipulation, according to Chief Executive Dr. Rahul Kakkar.

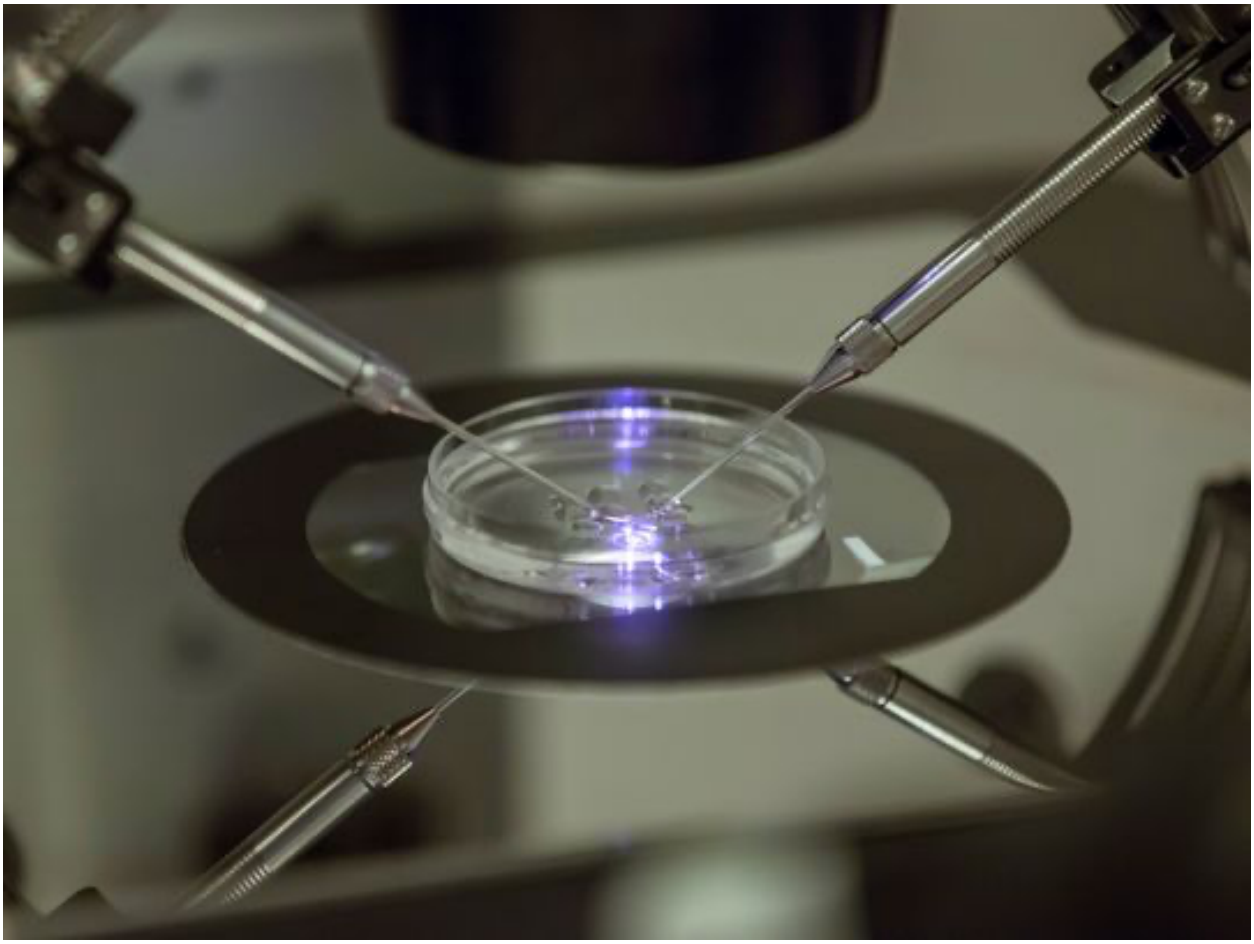
Tome, whose investors include **Polaris Partners,** said it aims to develop gene therapies for liver diseases and cell therapies for autoimmune conditions initially. Its gene therapies could integrate into the genome to enable durable production of specific proteins in appropriate cells, Kakkar said. Tome also seeks to engineer cells to give them various disease-fighting capabilities. The company hasn't yet revealed details about its initial drugs or the diseases they will treat.

Kakkar previously headed biotechnology company **Pandion Therapeutics**, a developer of autoimmune-disease therapies that was acquired by drugmaker **Merck**, for $1.85 billion, in 2021.

When considering his next role, Kakkar said he wasn't committed to entering the cell- and gene-therapy field. But the potential of Tome's technology won him over. "The light bulb in my mind is, it allowed us for the first time to regard DNA for what it is, software," he added.

And now on to the news...

Top News



In vitro fertilization involves combining eggs and sperm outside the body to produce embryos. PHOTO: SANG TAN/ASSOCIATED PRESS

Genetic testing. Startup **Orchid Biosciences** has launched a service enabling couples to screen embryos for genetic predispositions to diseases such as Alzheimer's and diabetes, inserting itself into a debate over the benefit of such testing for these and other common conditions during in vitro fertilization.

- Orchid, using proprietary techniques, says it can sequence more than 99% of embryo genomes, using the genetic material available from four to six cells sampled from an embryo. As a result, it says it can test for abnormal numbers of chromosomes and screen for some 1,200 monogenic diseases.

- Orchid also says it can test for genetic predispositions to diseases involving multiple genes, including Alzheimer's. The goal of this polygenic testing, an emerging field, is to inform couples about embryos' chances for developing these conditions and help them

decide which embryos to implant.

- Orchid founder and Chief Executive said polygenic testing equips couples with information relevant to the child's health. Some, such as **Stanford Health Care**'s Hannah Wand, question polygenic testing's value for embryo selection, saying this type of testing is more useful in adults, where there is more context with which to evaluate the results.

1,200

The approximate number of single-gene diseases startup **Orchid Biosciences** says it can screen embryos for through its genetic-testing service.

Artis Ventures Raises $200 Million for Second Techbio Fund

Artis Ventures has raised more than $200 million for its second fund targeting companies operating at the convergence of technology and biology. The new vehicle tops the $175 million Artis raised for its debut techbio fund in 2019. Artis has deployed the first fund in nearly 30 companies with three being acquired so far, said Stuart Peterson, founder and a managing partner of the San Francisco-based firm. They include **Lemonaid Health**, a platform for gaining online access to medical and pharmacy services that was sold to **23andMe** in 2021. Market conditions are tougher today than when Artis began investing its first techbio fund. But one thing that has changed for the better is the heightened focus on artificial intelligence, which is helping entrepreneurs glean new insights from biological and healthcare data. "You couldn't ask for a bigger tailwind," Peterson added.

—Brian Gormley

Industry News

Funds

European life sciences investor **Sofinnova Partners** launched Biovelocita, an investment strategy dedicated to the creation and acceleration of biotech startups in Europe.

People

Physician360, a provider of digital health services to rural areas in the U.S., appointed **Michael Muchnicki** to the post of chief executive. He previously held executive roles at United Health Group and Cigna Healthcare.

Nucleus RadioPharma, an integrated development, manufacturing and supply-chain organization for radiopharmaceuticals, appointed **Kathy Spencer-Pike** as chief commercial officer. She was previously chief sales officer at McKesson.

Clinical trial technology provider **Slope** named **Terry Edwards** as chief operating officer. Before Slope, he was founder and chief executive of PerfectServe.

Sollis Health, provider of a doctor, private urgent care and concierge service, named **Jia Jia Ye** as chief operating officer. She most recently co-founded and led Springtide Child Development as chief executive.

New Money

Bicara Therapeutics, a Boston-based biotechnology startup whose lead product candidate is currently in clinical development for multiple cancer types, closed a $165 million Series C round. Investors included **TPG** via its funds Life Sciences Innovations and The Rise Fund, along with **Aisling Capital**. TPG's Carolyn Ng joined Bicara's board.

Shinobi Therapeutics, a South San Francisco, Calif.-based cell therapy platform, completed a $51 million Series A round from investors including **EQT Life Sciences**, **F-Prime Capital** and others.

Freya Biosciences, a women's reproductive health startup with headquarters in Copenhagen and Boston, scored $38 million in Series A funding led by **Sofinnova Partners** and **OMX Ventures**.

Laza Medical, a Campbell, Calif.-based portfolio company of medtech incubator Shifamed that develops imaging technology for cardiac interventions, landed a $36 million Series A round. **The Capital Partnership** led the investment, which included participation from **GE HealthCare** and others.

Medefy Health, a Tulsa, Okla.-based healthcare benefits navigation platform, raised $10 million in Series A funding led by **Mercury Fund**.

Encellin, an Emeryville, Calif.-based startup developing a cell encapsulation platform with an initial focus on Type 1 diabetes, closed a $9.9 million investment led by **Khosla Ventures**.

Inductive Bio, a New York-based startup developing a machine learning platform for the compound optimization process, emerged from stealth with $4.3 million in seed funding co-led by **Andreessen Horowitz** and **Lux Capital**.