

Syntax US Medical Innovations Index



Paul Kenney April 1, 2025

Biotechnology, or biotech for short, has been around for decades and refers to working with cells or cell-derived molecules to produce a wide range of applications from genetic engineering to the development of novel drugs and medicines.¹ Today, biotech and the life sciences are benefitting from the emergence of a new field referred to as “techbio.” According to Forbes, techbio is an exciting new field focused on leveraging data and technology to improve, enhance, and accelerate life science processes.² Techbio has been made possible through technological breakthroughs like DNA sequencing and DNA synthesis that have allowed biology to be digitized. This digitalization of data, along with advancements in machine learning and artificial intelligence, enables researchers to analyze massive amounts of data in new and efficient ways.³

The emergence of techbio as a field could significantly accelerate the treatment of cancer, of which there are more than 100 types, each requiring specialized treatment approaches. It also holds the promise for making cancer treatments more accessible and affordable. The potential for breakthroughs are tied to:

- **AI-powered diagnostics:** Advances in imaging technology can identify cancer earlier and more accurately.
- **Genomics and precision medicine:** Genomic sequencing can identify genetic mutations driving an individual’s cancer, enabling the development of tailored treatments.
- **Immunotherapy:** Harnesses the power of a patient’s own immune system to recognize and destroy cancer cells. There are a variety of treatments,

including checkpoint inhibitors, CAR T-cell therapy, monoclonal antibodies, cytokines, and vaccines.

- **AI-driven drug discovery:** The analysis of vast datasets will accelerate the identification of new cancer drug candidates relative to traditional methods, shortening the timeline from discovery to clinical trials.⁴

The Syntax US Medical Innovations Index holds 50 companies engaged in cutting-edge medical research at an equal weight, with the objective of providing investors targeted exposure to innovative trends in healthcare. The SmartTrust Healthcare Innovation II, Series 4 portfolio selects roughly 30 of these companies to invest in. Companies held must own at least one drug that is in a FDA Phase II or Phase III trial and has a special FDA designation or a milestone in the near future. Companies are further screened for size and liquidity characteristics. Of the 30 companies in the Series 4 portfolio, nine are developing new treatments focused on creating cures for and treating cancer, including:

Autolus Therapeutics, plc (AUTL)

Is a clinical-stage biopharmaceutical company developing next-generation T-cell therapies for cancer. Focused on chimeric antigen receptor (CAR) T-cell technology, Autolus's therapies aim to treat various blood cancers, including multiple myeloma and non-Hodgkin lymphoma.

Celcuity, Inc. (CELC)

Is a clinical-stage biotechnology company that focuses on precision medicine for cancer. The company develops companion diagnostics and targeted therapies for hormone receptor-positive, HER2-negative breast cancer. Celcuity's CELsignia platform identifies unique cancer cell signaling pathways, enabling tailored treatment strategies that align with individual patients' tumor biology.

Day One Biopharmaceuticals, Inc. (DAWN)

Is a clinical-stage biopharmaceutical company that specializes in pediatric oncology. The company's lead candidate, Tovorafenib, is being developed for children with brain tumors. Day One's mission is to accelerate the development of innovative, targeted cancer therapies specifically for children, a population often underserved in oncology research.

Immunocore Holdings plc (IMCR)

Is a biotechnology company focused on developing T-cell receptor (TCR) therapies for cancer, infectious diseases, and autoimmune conditions. The company's proprietary ImmTAC® technology enables the immune system to specifically target and destroy cancer cells.

Incyte Corp. (INCY)

Is a biopharmaceutical company specializing in oncology and inflammation treatments. The company is known for developing Jakafi (ruxolitinib), a JAK inhibitor for myelofibrosis and polycythemia vera. Incyte has a growing pipeline focused on hematologic and solid tumors, with additional programs targeting various cancers and autoimmune diseases

Iovance Biotherapeutics, Inc. (IOVA)

Is a biopharmaceutical company focused on developing T-cell therapies for cancer, aiming to create personalized immunotherapies that harness the body's own immune cells to fight cancer. Its lead product, Lifileucel, is an adoptive cell therapy using tumor-infiltrating lymphocytes (TILs) for metastatic melanoma.

Olema Pharmaceuticals, Inc. (OLMA)

Is a clinical-stage biopharmaceutical company focused on developing targeted therapies for women's cancers, particularly breast cancer. Its lead program involves OP-1250, a selective estrogen receptor degrader (SERD) designed to inhibit estrogen receptor signaling, offering a potential new treatment for hormone receptor-positive breast cancer.

1. An Introduction to Biotechnology - PMC

2. Tech Bio: A Defining Opportunity For Life Sciences

3. From Biotech to TechBio

4. The future of oncology: How TechBio is revolutionizing cancer treatment and beyond | EU-Startups

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