

What Is Autologous Cell-Based Therapy, The Treatment Revolutionizing Regenerative Medicine That Could Be Set To Explode Over The Next Few Years?



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Successful Autologous Cell-Based Therapies

The global CAR-T cell therapy market is growing continuously due to novel clinical and commercial developments in this therapy. As a result, the Global CAR-T cell therapy market is expected to be worth USD 4.36 billion by 2028 from 2.31 billion in 2023, growing with a healthy CAGR of 13.5% during the forecast period. Companies like Pfizer (NYSE: PFE) Johnson & Johnson (NYSE: JNJ), Bristol-Meyers Squibb (NYSE: BMY) as well as Gilead Sciences (NASDAQ: GILD) all are focusing on this innovative CAR-T cell therapy.

Autologous cell based therapies are personalized therapies using your own cells to target a disease or disorder. Personalized therapies targeting cancer such CAR-T cell therapies have generated impressive clinical results with complete remission rates in B-acute lymphoblastic leukemia in over >80% of patients. One of the reasons this therapy has been successful is because it is autologous.

In 2017, the U.S. FDA approved the first two CAR-T cell therapies: Novartis' Kymriah® for treatment of acute lymphoblastic leukemia (ALL) and Gilead subsidiary Kite Pharma's Yescarta® for certain types of large B-cell lymphomas, a type of non-Hodgkin lymphoma. These autologous therapies are patient-specific where the therapeutic CAR-T cells are created from a patient's own cells.

The Value of Autologous Stem-Cell Therapies

Autologous stem-cell therapy is a novel medical technology that is revolutionizing the way the medical community approaches the treatment of metabolic, autoimmune and degenerative diseases. Additionally, this technique has been used successfully to develop skin grafts for wound care, treat burns and bedsores and speed up recovery after surgery.

The method involves extracting stem cells from a patient's body and culturing them in laboratory conditions before reintroducing them into the patient. Stem cells are a unique

type of cell that can develop into any other cell in the body. These “supercharged” cells can be used for tissue regeneration and repair, making stem cells a potent tool in modern **personalized** medicine. **Stratified medicine** simply cannot compete with this customization, precision, and safety profile.

The main benefit of using autologous cells is that these cells come from your own body and therefore do not trigger any **immunological rejection reactions**. They also **minimize the risk of infection** from non-patient sources. This allows autologous cell therapy to be used safely over a longer term, ensuring that the patient can access consistent and reliable treatment without risk of rejection or complications due to incompatibility.

In 2021, the autologous cell therapy market was valued at **\$4.3 billion** and was projected to skyrocket to \$29.1 billion by 2031—marking a compounded annual growth rate (CAGR) of 21% from 2022-2031. Although the market is still nascent, it is expected to eventually create a new healthcare sector with **revenue similar** to that of the pharmaceutical, biotechnological, and medical devices industries.

An Autologous Stem Cell-Based Approach to treat Disc Pain

BioRestorative Therapies Inc (NASDAQ: BRTX) focuses on innovative “home-grown” autologous stem-cell therapies to address unmet needs in patients with common yet serious diseases. It was founded by medical doctors, scientists and world-renowned stem-cell researchers committed to developing novel stem-cell therapies.

The lead candidate in BioRestorative’s musculoskeletal stem-cell platform is BRTX-100, administered as a minimally-invasive single intradiscal injection. BRTX-100 is currently being evaluated in an FDA gold standard phase 2 double-blind, controlled, randomized study in those with chronic lumbar disc disease (cLDD).

Chronic lumbar disc disease affects over **500 million** individuals globally and is currently only treatable with opioids and surgery. Despite being the most **commonly prescribed** drug for cLLD, no clinical data supports the use of opioids in cLLD, which only serves to increase the **opioid crisis** in the USA.

Surgery for cLLD carries many disadvantages and limitations. The cost of surgery can be high. While surgical intervention may reduce pain in some cases, it often fails to restore previous levels of function or mobility. Revision or reoperation rates for surgical intervention in the spine can be upwards of 20-30% of the cases performed. Furthermore, a more extended recovery period is associated with an increased risk of mechanical instability of the spine and potentially increased failure rates compared to non-surgical treatments.

It would appear a bright future awaits BioRestorative Therapies and the autologous cell therapy market in general as patients increasingly look at personalized alternatives to

surgery and conventional medicine. BRTX-100 is an innovative and minimally-invasive technology set to revolutionize lower back pain treatment.

Visit <https://www.biorestorative.com> for more information on the company and its product candidates.

This article was originally published on Benzinga [here](#).

BioRestorative Therapies was founded by scientists and researchers committed to developing stem cell therapies to address unmet needs in patients with highly prevalent conditions. Our advances in stem cell biology and delivery protocols harbor great promise in conditioning our bodies' own regenerative potential to treat major diseases more effectively than current interventions. Today, BioRestorative is actively developing programs that aim to dramatically increase quality of care for both (i) chronic back pain caused by disc degeneration, as well as (ii) metabolic disorders including obesity and diabetes.

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