Biotechnology Innovation Organization

CELL THERAPY

Cell therapy refers to the use of whole cells to treat disease. This can include **replacing** or **repairing** tissue and/or cells damaged by disease, or attacking cancer cells.

TREATING DISEASES WITH CELL THERAPY:

Cell therapy may be used as part of a therapy or treatment for a variety of diseases and conditions such as **cancer, sickle cell disease, beta thalassemia,** or **HIV.**

Some of the cells that may be used include hematopoietic (blood-forming) stem cells, skeletal muscle stem cells, mesenchymal stem cells, lymphocytes, dendritic cells, and pancreatic islet cells.

CURRENT BIOTECH ECOSYSTEM

4
FDA approved cell therapy products in the U.S.*

565
cell therapy programs under development

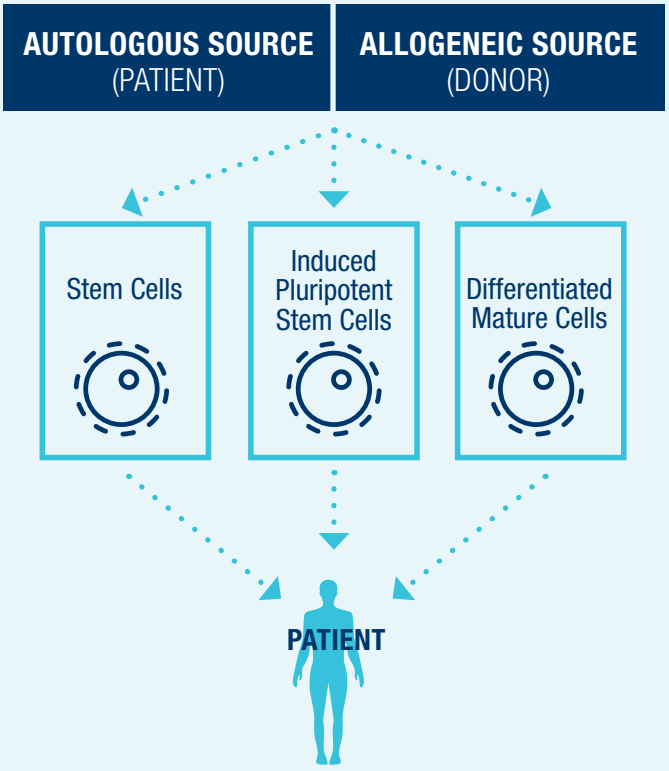
204
companies developing cell therapies

HOW IT WORKS:

The cells can originate from the patient **(autologous source)** or from a donor **(allogeneic source)**.

Cells can be derived from:

- **Stem cells,** such as bone marrow
- **Reprogrammed mature cells,** such as induced pluripotent stem cells (iPSC)
- **Differentiated cells** produced from stem cells in a lab



* Does not include cord blood products. For a full list of FDA-approved products please visit https://www.fda.gov/biologicsbloodvaccines/cellulargenetherapyproducts/approvedproducts/default.htm