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

*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

**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

**AUTOLOGOUS SOURCE (PATIENT) | ALLOGENEIC SOURCE (DONOR)**

- Stem Cells
- Induced Pluripotent Stem Cells
- Differentiated Mature Cells

**PATIENT**