

Understanding Cell Therapies

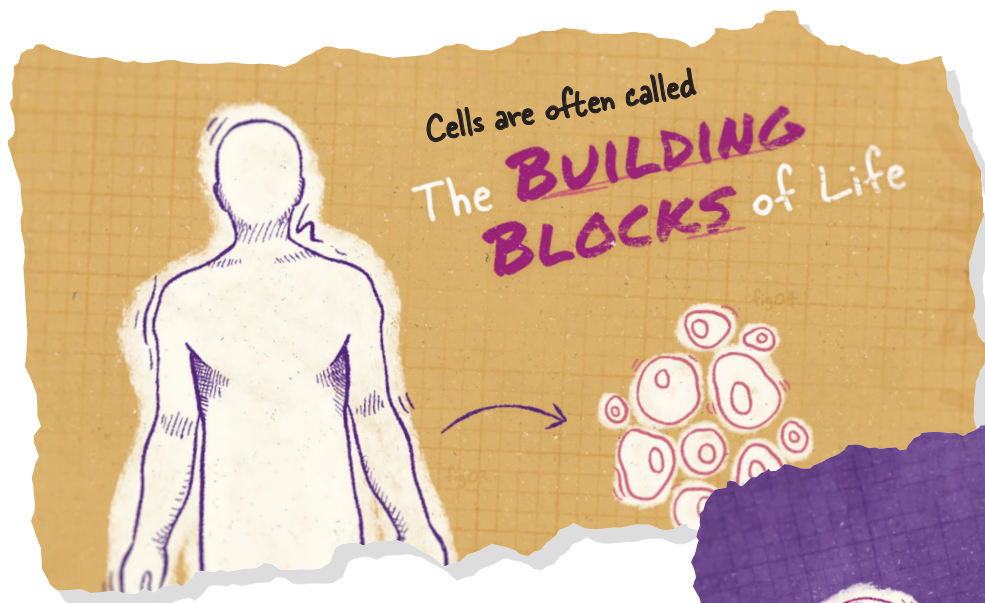


At Vertex, we believe true scientific transformation happens at the intersection of human biology and medical innovation. We are continuously developing our drug discovery and development toolbox to advance cutting-edge science in order to solve some of the most difficult medical and scientific problems.

What are **CELL THERAPIES** and how do they work?

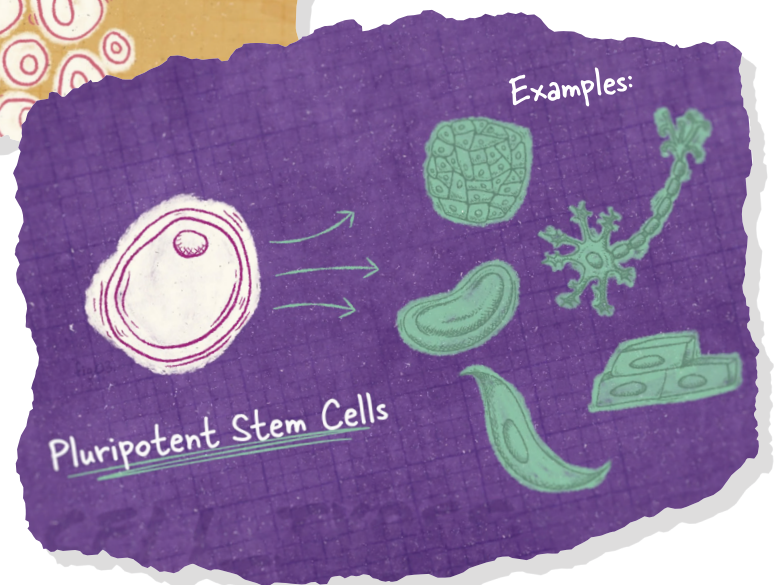
Cell therapies are being investigated to treat diseases using different types of cells.

Cell therapies may be able to replace or repair damaged, mutated or missing cells in a person's body with the goal of treating conditions from cancer to genetic and neurologic disorders.

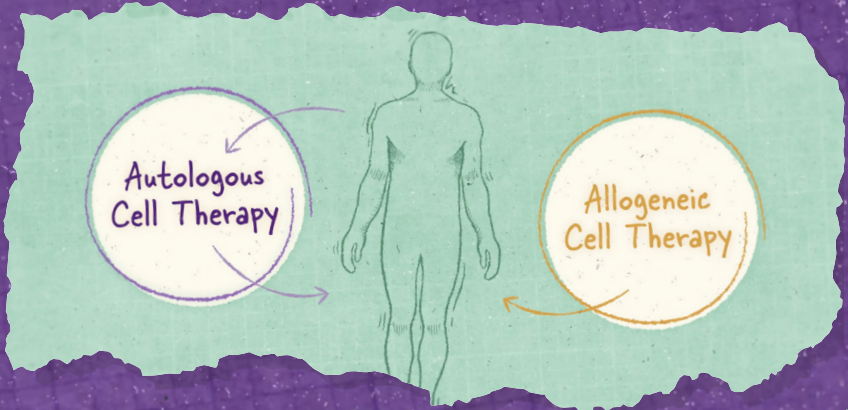


Cell therapies are being developed using a variety of different cells depending on the objective, including blood cells, pancreatic cells, or nerve cells.

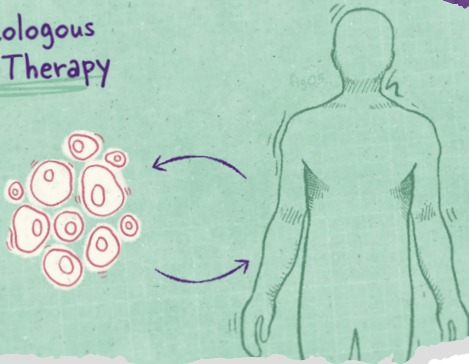
These cells may be made from **pluripotent stem cells** — a cell that is able to replicate and differentiate, or convert into any specific cell type in the body.



There are **two different types** of cell therapies in people. Cells can be obtained from patients themselves, known as autologous cell therapy, or from an outside source, known as allogeneic cell therapy.

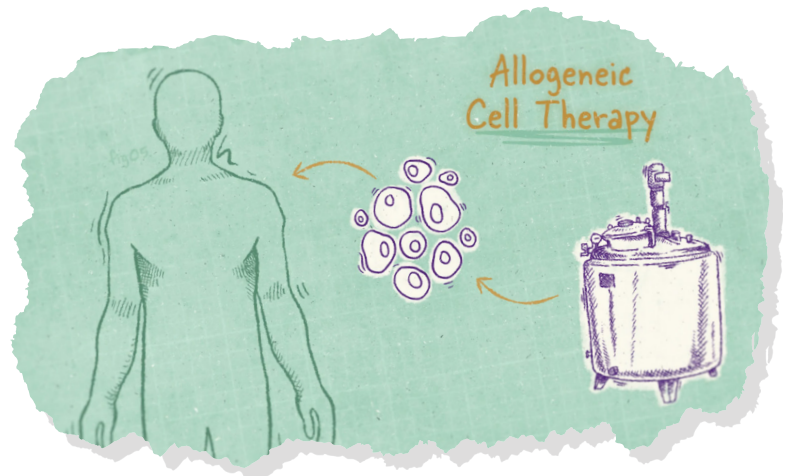


Autologous Cell Therapy



Autologous cell therapy is when cells **are removed from a person's body**, processed to make any potential repairs or changes to the cells, and returned to the same person's body. Because the cells are autologous, this type of therapy does not trigger an immune response in the body.

On the other hand, **allogeneic cell therapies require cells from another source**. This may be from another person, like in a bone marrow transplant, or by processing other types of cells in a lab. Allogeneic cell therapy requires a way to protect the cells from the person's own immune system, e.g. with immunosuppression.



How can **CELL THERAPIES** be used to develop **SOLUTIONS** for serious diseases?

Cell therapies give scientists the potential to **replace or repair damaged, mutated or missing cells** in a person's body that are the underlying cause of their disease or condition.



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