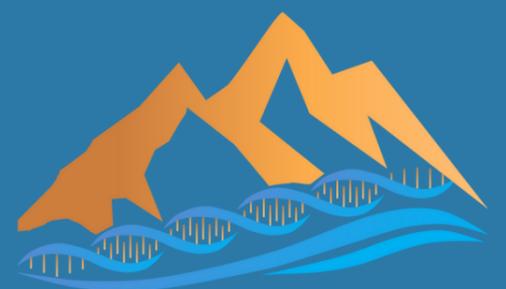


UNDERSTANDING STEM CELLS





Stem cells are special cells in the body that have the unique ability to replicate indefinitely and to develop into many different types of cells.

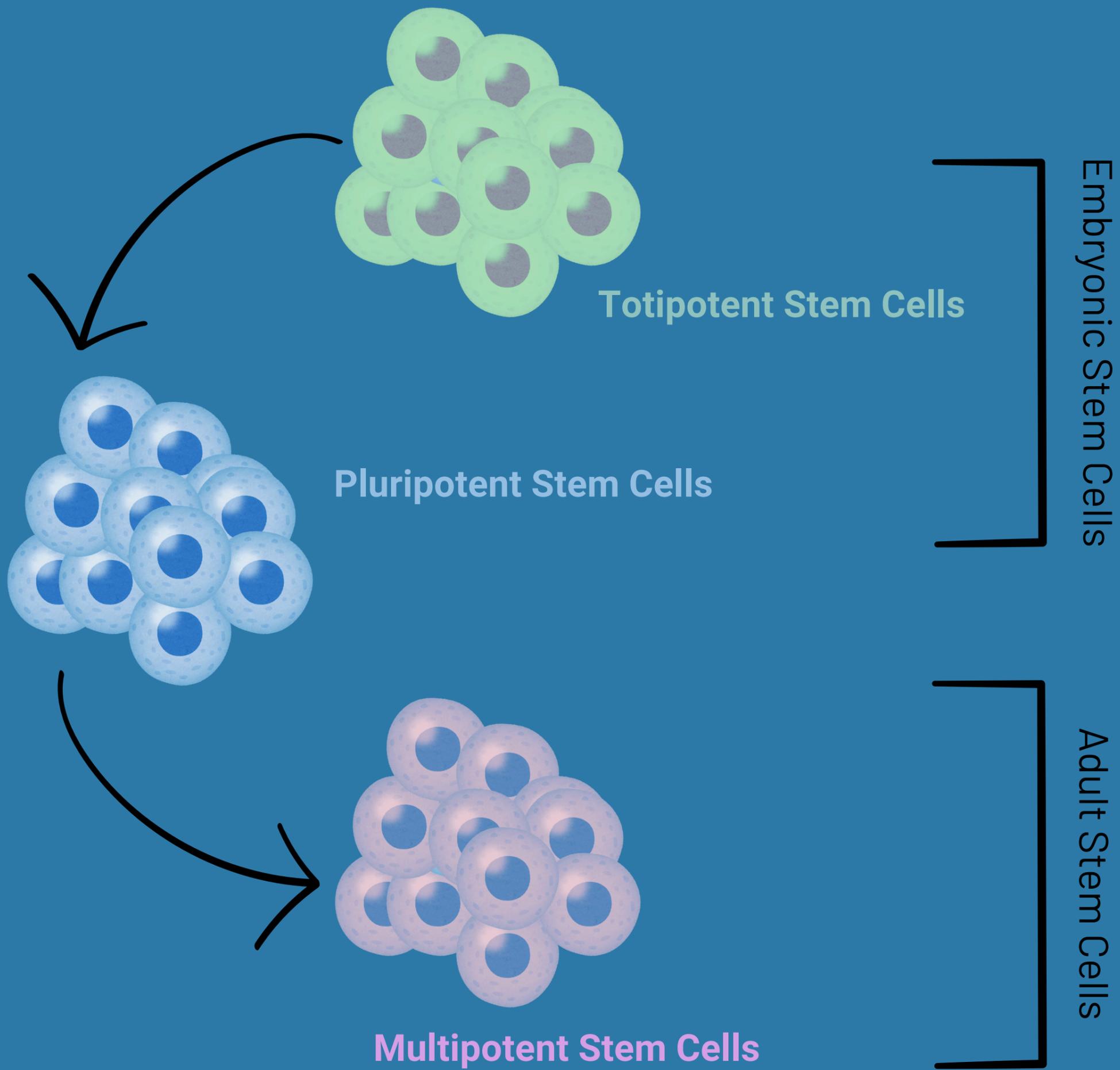
They can become muscle cells, nerve cells, or even blood cells, depending on what the body needs.

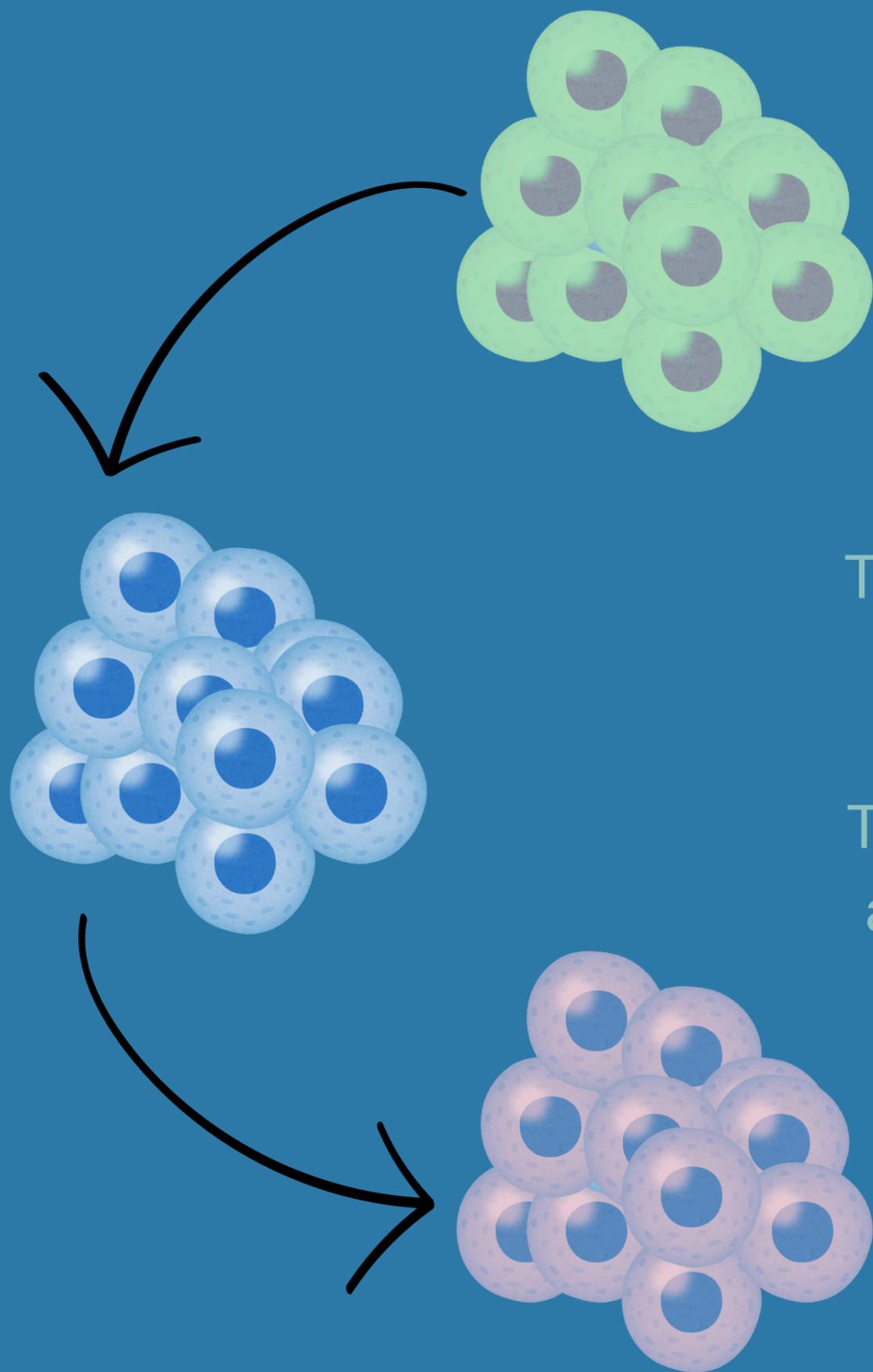


There are two main types of stem cells:

Embryonic Stem Cells: They come from early embryos and can turn into any type of cell in the body.

Adult Stem Cells: They are found in various tissues (like bone marrow) and become specific types of cells related to their location.

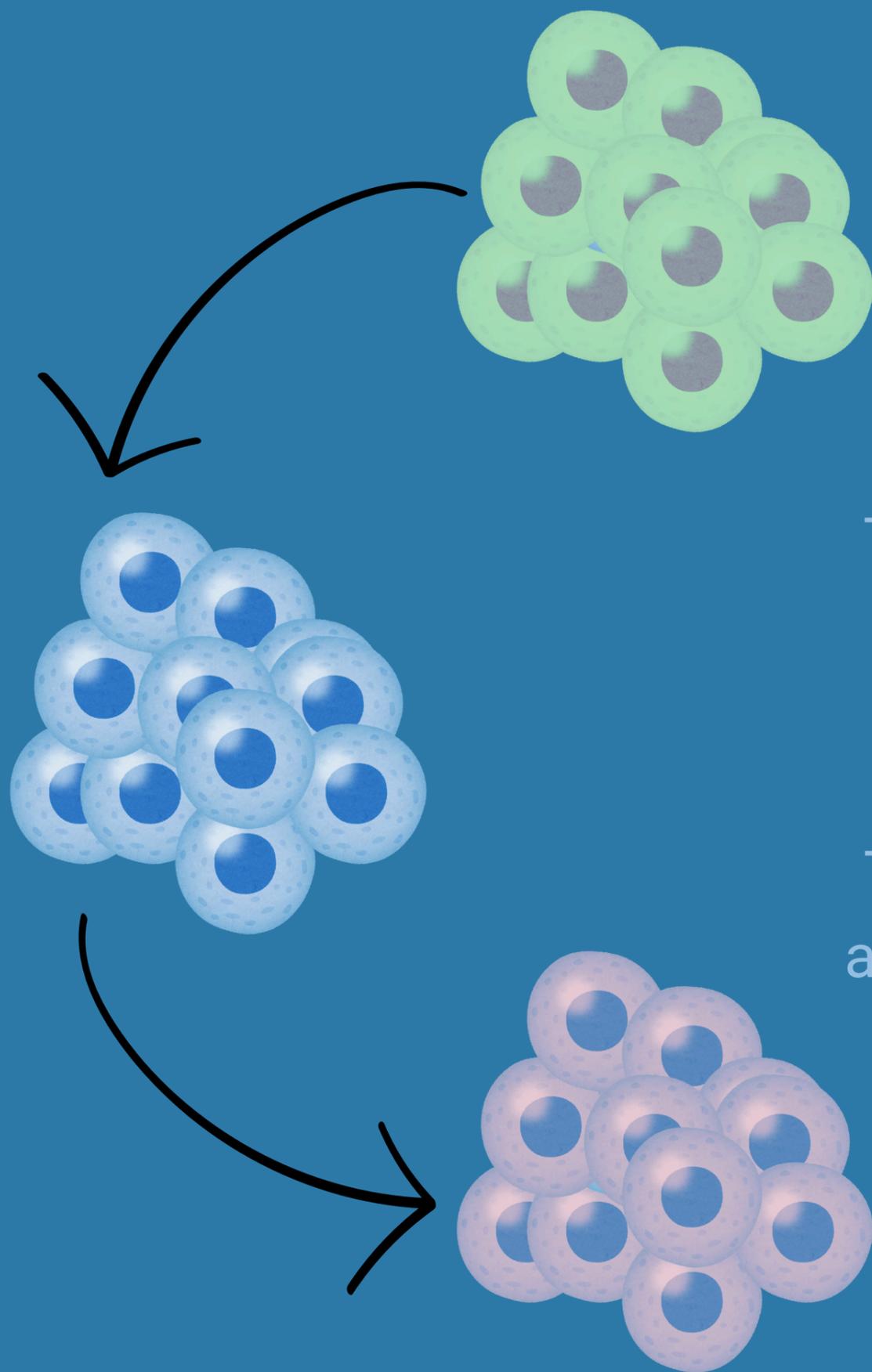




Totipotent Stem Cells:
The most powerful type of stem cells.

They can turn into any cell and form fetal tissue like the placenta.

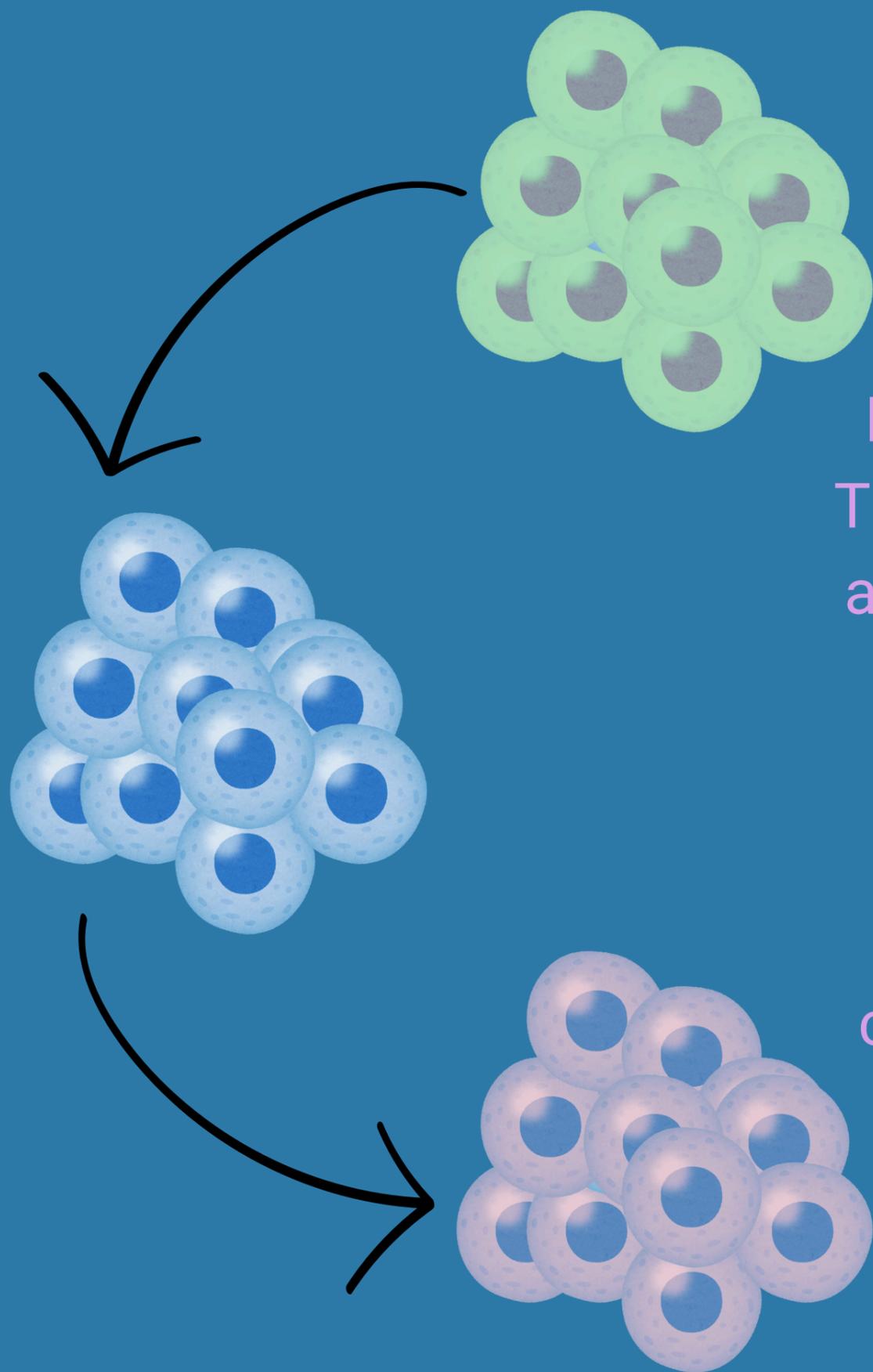




Pluripotent Stem Cells:
They can become any type of cell in the body but not the placenta.

They are found in embryos and can be used in research and medicine.



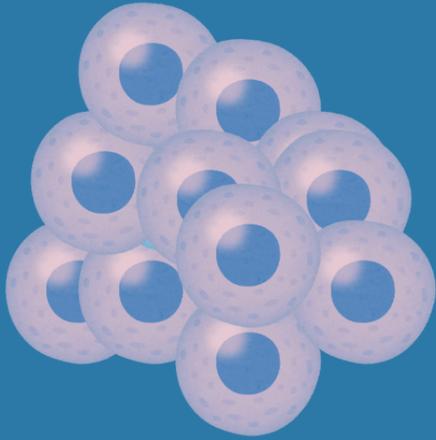


Multipotent Stem Cells:
They are more specialized
and can only develop into
a limited number of cell
types.

They are the only stem
cells present in the adult
body.

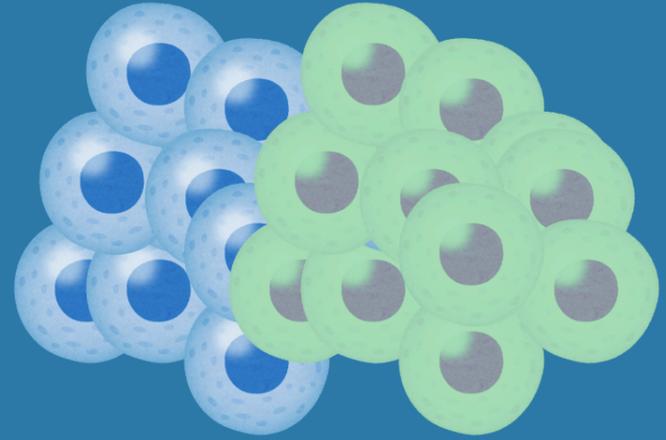


Adult Stem Cells



VS

Embryonic Stem Cells



Multipotent, oligopotent or unipotent cells

Rare population derived from adult tissues

Differentiate into limited types of cells

Contribute to tissue repair and maintenance

Pluripotent cells

Derived from the embryo

Differentiate into cells of the three germ layers

Are the building blocks of organism development



Stem cells represent a promising avenue for advancing medical science and improving health outcomes:

- Repair and Regeneration
- Understanding Development
- Disease Research
- Personalized Medicine
- Drug Testing