

# Stem Cells- Embryonic and Adult

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Stem cells are the master cells of the human body. They divide to produce copies of themselves and many other types of cell. They are found in various parts of the human body at every stage of development from embryo to adult. Stem cells taken from embryos that are just a few days old can turn into any of the 300 different types of cell that make up the adult body.

Embryonic stem cells derive from embryos that develop from eggs. Most of these eggs have been fertilized in an in vitro fertilization clinic. An in vitro fertilization is a technique that unites the egg and sperm in a laboratory instead of inside the female body. Another place that once can find embryonic stem cells is in abortion clinics. The embryos that are used for embryonic stem cells are preferred to be four or five days old.

An adult stem cell is thought to be an undifferentiated cell, found among differentiated cells in a tissue or organ that can renew it and can differentiate to yield some or all of the major specialized cell types of the tissue or organ. The primary roles of adult stem cells in a living organism are to maintain and repair the tissue in which they are found. Scientists also use the term somatic stem cell instead of adult stem cell, where somatic refers to cells of the body (not the germ cells, sperm or eggs). Unlike embryonic stem cells, which are defined by

their origin (the inner cell mass of the blastocyst), the origin of adult stem cells in some mature tissues is still under investigation.

Human embryonic and adult stem cells each have advantages and disadvantages regarding potential use for cell-based regenerative therapies. One major difference between adult and embryonic stem cells is their different abilities in the number and type of differentiated cell types they can become. Embryonic stem cells can become all cell types of the body because they are pluripotent. Adult stem cells are thought to be limited to differentiating into different cell types of their tissue of origin.

The researches on these cells are very important because through stem cells we can find a cure for many diseases. But these research is going very slow because there is a big controversy because not many people want these studies to be done because as explained in throughout the paper one type of these cells can only be obtain from embryos 4 or 5 days old and no one wants to risk their future child to be born with a disability. So they obtain most of the cells from abortion clinics and many people think is one way to promote abortion

Work Cited

<http://stemcells.nih.gov/info/basics/basics4.asp>