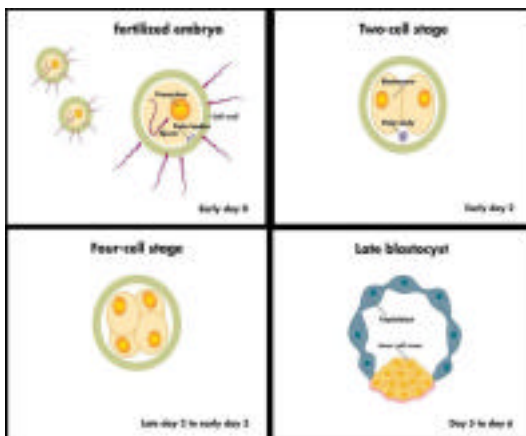


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Biomed lecture  
ELE 282

## Stem Cell Research

Stem cells are unspecialized, capable of dividing and renewing themselves, and stem cells can give rise to specialized cells. There are two different kinds of stem cell. There are adult stem cells and there are embryonic stem cells.

Embryonic stem cells are the inner cell mass inside of a blastocyst. In order to grow these cells they need to be removed from the embryo and put into a petri dish coated in embryonic mouse skin.



Adult stem cells are undifferentiated cells found among differentiated cells in a tissue or organ. These cells can be found in the brain, bone marrow, peripheral blood, blood vessels, skeletal muscles, skin, and liver.

The comparison between adult stem cells and embryonic stem cells are that embryonic stem cells can become any of the 220 cell types found in the body and adult stem cells are limited on the number of cells that they can become. Also embryonic stem cells can be retrieved in great quantities. Adult stem cells are more difficult to find and are found in smaller quantities. Lastly the use of adult stem cells can eliminate the possibility of the patient's body rejecting the tissue if the stem cell was taken from the patient's own body.

Some of the potential uses of human stem cells are: they can further the understanding of human development, they can be used to test new drugs, they could be used to regenerate cells and tissues that could be used for cell based therapies.

[http://www.religioustolerance.org/res\\_stem.htm](http://www.religioustolerance.org/res_stem.htm)  
<http://stemcells.nih.gov/index.asp>  
<http://www.whitehouse.gov/news/releases/2001/08/20010809-1.html>  
<http://www.mos.org/cst/article/1472/1.html>  
<http://www.andylee.freeuk.com/cure.htm>