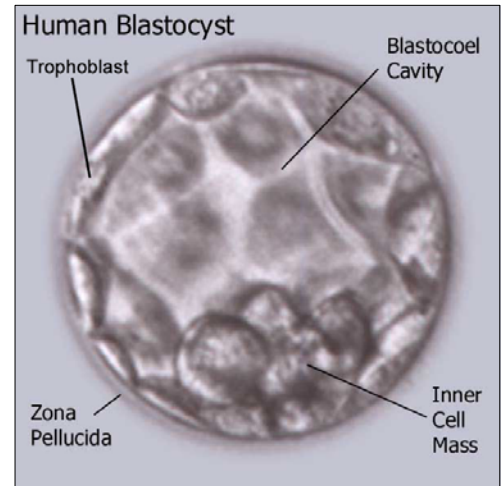


Embryonic Stem Cells

What are Embryonic Stem Cells?

Embryonic Stem Cells (ES cells) usually come from the inner cell mass of a 4-5 day old embryo called the **blastocyst**. ES cells can theoretically form all cell types, except those of the placenta.

Scientists have only been able to do experiments with human embryonic stem cells since 1998.



Sources of Embryonic Stem Cells

ES cells are usually taken from left over embryos formed through **in vitro fertilization**, the fertilization of an egg in a dish or test tube to help couples having trouble conceiving.

ES cells can also be created through Somatic Cell Nuclear Transfer (SCNT), also known as “**therapeutic cloning**”. SCNT is a process by which a nucleus from a single cell is transferred into an unfertilized egg, from which the nucleus have been removed. The egg with the new nucleus is grown to blastocyst stage, at which point ES cells are removed from the inner cell mass.

Resources: The National Institute of Health’s Stem Cell Basics: <http://stemcells.nih.gov>
The Harvard Stem Cell Institute Glossary of Terms: <http://www.hsci.harvard.edu/glossary>



Harvard College Stem Cell Society

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