

## Stem Cells – A Revolution in Medicine

### “Basics of Stem Cells” Worksheet

Use the word bank below to fill in the blanks!

Pluripotent	Embryonic Stem Cells	CIRM	Embryonic stem cell line
Mesenchymal Stem Cells	Multipotent	Omnipotent	Regenerative
Cancer Stem Cells	Adult Stem Cells	Differentiation	Stromal
MicroRNAs	Alexander Maximow	Totipotent	Feeder Layer
Germ Layer	Hematopoietic Stem Cell	Fertilization	DNA
Proliferation	Good Manufacturing Practice	Transduction	Vectors (as Viruses)

- Cells which can differentiate into bone, cartilage, or fat cells are called \_\_\_\_\_.
- One of the first scientists to identify stem cells, the “precursors” of all cells, is \_\_\_\_\_.
- \_\_\_\_\_ are known to control the pathway through which stem cell differentiation takes place.
- The \_\_\_\_\_ of a stem cell into different types of cells is one of its main characteristics.
- \_\_\_\_\_ is the largest stem cell research organization in the State of California.
- All cells have \_\_\_\_\_ inside their nucleus. It is the “blueprint of life”.
- The culturing of stem cells on a dish requires a \_\_\_\_\_ of cells (usually murine embryonic stem cells).
- Stem cells can make large quantities of other cells and large quantities of themselves – this is known as \_\_\_\_\_.
- It is necessary to use \_\_\_\_\_ when producing clinical-grade stem cell products.
- \_\_\_\_\_ are used to insert factors and genetic material into cells and stem cells by a process known as \_\_\_\_\_. They are usually weakened.
- Stem cells which proliferate *too* rapidly and uncontrollably, \_\_\_\_\_, have been known to cause tumors in the body.
- \_\_\_\_\_ stem cells, also known as \_\_\_\_\_ stem cells, can differentiate into any type of cell in the human body.
- Also known as mesenchymal stem cells, \_\_\_\_\_ cells form the connective tissues in the body.
- \_\_\_\_\_ medicine deals with cures and therapies derived from stem cells and tissue regeneration.
- A family of embryonic stem cells from which cells used for experimentation are derived is known as a \_\_\_\_\_.
- Union of an egg and a sperm for production of offspring is a process called \_\_\_\_\_.
- Stem cells isolated from the bone or blood marrow, cable of regenerating themselves, are known as \_\_\_\_\_. They are \_\_\_\_\_ stem cells.
- Undifferentiated, developed stem cells in the human body are known as \_\_\_\_\_.
- Stem cells which can differentiate into any of the three human \_\_\_\_\_ (endoderm, mesoderm, or ectoderm) are known as \_\_\_\_\_ stem cells.