

What Is Stem Studies

Stem-cell line A stem cell line is a group of stem cells that is cultured in vitro and can be propagated indefinitely. They are commonly used in research and regenerative medicine. Stem cell lines are derived from either animal A stem cell line is a group of stem cells that is cultured in vitro and can be propagated indefinitely. Stem cell lines are derived from either animal or human tissues and come from one of three sources: embryonic stem cells, adult stem cells, or induced pluripotent stem cells

Women's participation in science, technology, and engineering has been limited and also under-reported throughout most of history. This has been the case, with exceptions, until large-scale changes began around the 1970s. Scholars have discussed possible reasons and mechanisms behind the limitations such as ingrained gender roles, sexism, and sex differences in psychology. There has also been an effort among historians of science to uncover under-reported contributions of women. The "Computer Women" at NASA during the 1950s and 1960s... == Medical uses ==

Stem-and-leaf display Stemplots became more commonly used in the 1980s after the publication of John Tukey's book on exploratory data analysis in 1977. A stem-and-leaf display or stem-and-leaf plot is a device for presenting quantitative data in a graphical format, similar to a histogram, to assist in A stem-and-leaf display or stem-and-leaf plot is a device for presenting quantitative data in a graphical format, similar to a histogram, to assist in visualizing the shape of a distribution. The popularity during those years is attributable to their use of monospaced (typewriter) typestyles that allowed computer technology of the time to easily produce the graphics. They evolved from Arthur Bowley's work in the early 1900s, and are useful tools in exploratory data analysis. Modern computers' superior graphic capabilities have meant these techniques are less often used

A stem-and-leaf plot is also called a stemplot, but the latter term often refers to another chart type. A simple stem plot may refer to plotting a matrix of y values onto a common x axis, and identifying the common x value with a vertical line, and the individual y values with symbols on the line. == History == Stem-cell therapy has become controversial following developments such as the ability of scientists to isolate and culture embryonic stem cells, to create stem cells using somatic cell nuclear transfer, and their use of techniques to create induced pluripotent stem cells. This controversy is often related to abortion politics and human cloning. Additionally, efforts to market treatments based on transplant of stored umbilical cord blood have been controversial.

Women in STEM the vast and persistent gender gap in STEM studies because they point to a wide educational disparity at what is a critical time in students's academic Many scholars and policymakers have noted that the fields of science, technology, engineering, and mathematics (STEM) have remained predominantly male with historically low participation among women since the origins of these fields in the 18th century during the Age of Enlightenment

It is most often performed for patients with certain cancers of the blood or bone marrow, such as multiple myeloma, leukemia, some types of lymphoma and immune deficiencies. In these cases, the recipient's immune system is usually suppressed with radiation or chemotherapy before the transplantation. Infection and graft-versus-host disease are major complications of allogeneic HSCT.

Hematopoietic stem cell transplantation Hematopoietic stem-cell transplantation (HSCT) is the transplantation of multipotent hematopoietic stem cells, usually derived from bone marrow, peripheral Hematopoietic stem-cell transplantation (HSCT) is the transplantation of multipotent hematopoietic stem cells, usually derived from bone marrow, peripheral blood, or umbilical cord blood, in order to replicate inside a patient and produce additional normal blood cells. HSCT may be autologous (the patient's own stem cells are used), syngeneic (stem cells from an identical twin), or allogeneic (stem cells from a donor)

== Current status of girls and women in STEM education == == Properties == The organization UNESCO has stated that this gender disparity is due to discrimination, biases, social norms and expectations that influence the quality of education women receive and the subjects they study. UNESCO also believes that having more women in STEM fields is desirable because it would help bring about sustainable development. Scholars are exploring the various reasons for the continued existence of this gender disparity in STEM fields. Those who view this disparity as resulting from discriminatory forces are also seeking ways to redress this disparity within STEM fields. STEM professions are typically construed as well-compensated, high-status professions with universal career appeal. The best-known type of pluripotent stem cell is the embryonic stem cell. However, since the generation of embryonic stem cells involves the destruction (or at least manipulation) of a pre-implantation stage embryo, there has been... Pluripotent stem cells hold promise in the field of regenerative medicine. Because they can propagate indefinitely, as well as give rise to every other cell type in the body (such as neurons, heart, pancreatic, and liver cells), they represent a single source of cells that could be used to replace those lost to damage or disease.

Induced pluripotent stem cell Induced pluripotent stem cells (also known as iPS cells or iPSCs) are a type of pluripotent stem cell that can be generated directly from a somatic cell Induced pluripotent stem cells (also known as iPS cells or iPSCs) are a type of pluripotent stem cell that can be generated directly from a somatic cell. Shinya Yamanaka was awarded the 2012 Nobel Prize along with Sir John Gurdon "for the discovery that mature cells can be reprogrammed to become pluripotent. ". The iPSC technology was pioneered by Shinya Yamanaka and Kazutoshi Takahashi in Kyoto, Japan, who together showed in 2006 that the introduction of four specific genes (named c-Myc, Oct4, Sox2 and KLF4), collectively known as Yamanaka factors, encoding transcription factors could convert somatic cells into pluripotent stem cells

Unlike histograms, stem-and-leaf displays retain the original data to at least two significant digits, and put the data in order, thereby easing... In mammals, roughly 50 to 150 cells make up the inner cell mass during the blastocyst stage of embryonic development, around days 5-14. These have stem-cell capability. In vivo, they eventually differentiate into all of the

body's cell types (making them pluripotent). This process starts with the differentiation into the three germ layers – the ectoderm, mesoderm and endoderm – at the gastrulation stage. However, when they are isolated and cultured in vitro, they can be kept in the stem-cell stage and are known as embryonic stem cells (ESCs). 15796dc389

Stem-cell therapy As of 2024[update], the only FDA-approved therapy using stem cells is hematopoietic Stem-cell therapy uses stem cells to treat or prevent a disease or condition. Stem-cell therapy uses stem cells to treat or prevent a disease or condition. As of 2024, the only FDA-approved therapy using stem cells is hematopoietic stem cell transplantation. This usually takes the form of a bone marrow or peripheral blood stem cell transplantation, but the cells can also be derived from umbilical cord blood. Research is underway to develop various sources for stem cells as well as to apply stem-cell treatments for neurodegenerative diseases and conditions such as diabetes and heart disease 15796dc389

== Background == 15796dc389 Scientific interest in adult stem cells is centered around two main characteristics. The first of which is their ability to divide or self-renew indefinitely, and the second their ability to generate all the cell types of the organ from which they originate, potentially regenerating the entire organ from a few cells. Unlike embryonic stem cells, the use of human adult stem cells in research and therapy is not considered to be controversial, as they are derived from adult tissue samples rather than human embryos designated for scientific research. The main functions of adult stem cells are to replace cells that are at risk of possibly dying as a result of disease or injury and to maintain a state of homeostasis within the cell. There are three main methods to determine if the adult stem cell is capable of becoming a specialized... 15796dc389 For over 90 years, hematopoietic stem cell transplantation (HSCT) has been used to treat people with conditions such as leukemia and lymphoma; this is the only widely practiced form of stem-cell... 15796dc389 This plot has been implemented in Octave and R. 15796dc389

Stem cell They are found in both embryonic and adult organisms, but they have slightly different properties in each. They are the earliest type of cell in a cell lineage. lead investigator for studies that found colony-forming cells were capable of self-renewal, which is a key defining property of stem cells that Till and In multicellular organisms, stem cells are undifferentiated or partially differentiated cells that can change into various types of cells and proliferate indefinitely to produce more of the same stem cell. They are usually distinguished from progenitor cells, which cannot divide indefinitely, and precursor or blast cells, which are usually committed to differentiating into one cell type 15796dc389

HSCT remains a dangerous procedure with many possible complications; it is reserved for patients with life-threatening diseases. As survival following the procedure has increased, its use has expanded beyond cancer to autoimmune diseases and hereditary skeletal dysplasias, notably malignant infantile osteopetrosis and mucopolysaccharidosis. 15796dc389 == Medical uses == 15796dc389

Stem cell controversy Most commonly, this controversy focuses on embryonic stem cells. Not all stem cell research involves human embryos. For example, adult stem cells, amniotic stem cells, and induced pluripotent stem cells do not involve creating, using, or destroying human embryos, and thus are minimally, if at all, controversial. For example, adult stem cells, amniotic stem cells, and induced pluripotent stem cells The stem cell controversy concerns the ethics of research involving the development and use of human embryos. Many less controversial sources of acquiring stem cells include using cells from the umbilical cord, breast milk, and bone marrow, which are not pluripotent. embryonic stem cells. Not all stem cell research involves human embryos 15796dc389

Adult stem cell However, recent studies have shown that both human Adult stem cells are undifferentiated cells, found throughout the body after development, that multiply by cell division to replenish dying cells and regenerate damaged tissues. They are also known as somatic stem cells (from Greek σωματικός, meaning of the body). other populations of adult stem cells may explain the apparent pluripotency of adult stem cell populations. Unlike embryonic stem cells, they can be found in juvenile and adult animals, including humans 15796dc389

Female education in STEM In 2017, 33% of students in STEM fields were women. interest in STEM subjects with age, particularly between early and late adolescence. This decreased interest affects participation in advanced studies at the Female education in STEM refers to child and adult female representation in the educational fields of science, technology, engineering, and mathematics (STEM) 15796dc389

Adult stem cells are found in a few select locations in the body, known as niches, such as those in... 15796dc389

[https://lb1-s245-pub.pressidium.com/\\$d/text/file?CHAPTER=america-time_now_ohio](https://lb1-s245-pub.pressidium.com/$d/text/file?CHAPTER=america-time_now_ohio)
https://lb1-s245-pub.pressidium.com/!z/edu/exe?PDF=educacao-fisica-a__historia
https://lb1-s245-pub.pressidium.com/~k/science/find?DOC=how-to__get__blood-out-of_furniture
https://lb1-s245-pub.pressidium.com/=i/ppt/exe?PUB=puntadas_en_la__boca-del__estomago
https://lb1-s245-pub.pressidium.com/~t/chap/list?DOC=cuantos_dias-son_6_meses
https://lb1-s245-pub.pressidium.com/=s/ref/go?EBOOK=tide-times-fleetwood_uk
<https://lb1-s245-pub.pressidium.com/@m/lib/go?PAGE=que-tomar-para-bajar-la-fiebre>
https://lb1-s245-pub.pressidium.com/^a/ppt/file?PAGE=267_is-what-area__code
https://lb1-s245-pub.pressidium.com/_z/edu/list?RTF=como__sacar_las-flemas__pegadas_en__la-garganta
https://lb1-s245-pub.pressidium.com/_m/ref/file?PPT=therapy__meaning-in_bengali
https://lb1-s245-pub.pressidium.com/@x/edu/niche?CHAPTER=primary__medical_centre__craigieburn