

Theme: Advanced Approaches in Cell Science and Stem Cell Therapy

Summary:

Chicago is the 3rd largest city in the USA, which says a lot about the city. The city also boasts the architectural magnificence where some of its buildings gently peek through the skies. In Chicago around 150 universities which deals with Cell Biology and Stem Cell research. Overall USA has more than 300 organizations which have scope and promising research related to Cell Science and stem Cell. More than 150 associations and research institutes are working towards stem cell in greater Chicago area. Stem cell research is perhaps the most exciting medical technology of the 21st Century. Stem cells hold the promise of treatments and cures for more than 70 major diseases and conditions that affect millions of people, including diabetes, Parkinson's, Alzheimer's, cancer, multiple sclerosis, Lou Gehrig's Disease (ALS), spinal cord injuries, blindness, and HIV/AIDS. The global market for stem cell products was \$3.8 billion in 2011. This market is expected to reach nearly \$4.3 billion in 2012 and \$6.6 billion by 2016, increasing at a compound annual growth rate (CAGR) of 11.7% from 2011 to 2016. Americas is the largest region of global stem cell market, with a market share of about \$2.0 billion in 2013. The region is projected to increase to nearly \$3.9 billion by 2018, with a CAGR of 13.9% for the period of 2013 to 2018. Europe is the second largest segment of the global stem cell market and is expected to grow at a CAGR of 13.4% reaching about \$2.4 billion by 2018 from nearly \$1.4 billion in 2013.

For more details please visit- <http://stemcell.omicsgroup.com/>

History of Stem cells Research:

Stem cells have an interesting history, in the mid-1800s it was revealed that cells were basically the building blocks of life and that some cells had the ability to produce other cells. Efforts were made to fertilize mammalian eggs outside of the human body and in the early 1900s, it was discovered that some cells had the capacity to generate blood cells. In 1968, the first bone marrow transplant was achieved successfully to treat two siblings with severe combined immunodeficiency. Other significant events in stem cell research include:

1978: Stem cells were discovered in human cord blood

1981: First in vitro stem cell line developed from mice

1988: Embryonic stem cell lines created from a hamster

1995: First embryonic stem cell line derived from a primate

1997: Cloned lamb from stem cells

1997: Leukaemia origin found as haematopoietic stem cell, indicating possible proof of cancer stem cells.

Members Associated with Stem Cell Research:

In University of Chicago there is Committee on Development, Regeneration, and Stem Cell Biology takes an interdisciplinary

approach to understanding the fundamental question of how a single cell, the fertilized egg, ultimately produces a complex fully patterned adult organism, as well as the intimately related question of how adult structures regenerate. Stem cells play critical roles both during embryonic development and in later renewal and repair. More than 35 faculty from both basic science and clinical departments in the Division of Biological Sciences belong to Development, Regeneration, and Stem Cell Biology. Their research uses traditional model species including nematode worms, fruit-flies, Arabidopsis, zebrafish, amphibians, chick and mouse as well as non-traditional model systems such as lampreys and cephalopods. Areas of research focus include stem cell biology, regeneration, developmental genetics, cellular basis of development, developmental neurobiology, and "evo-devo".

Stem Cell Market Value:

Worldwide many companies are developing and marketing specialized cell culture media, cell separation products, instruments and other reagents for life sciences research. We are providing a unique platform for the discussions between academia and business.

Global Tissue Engineering & Cell Therapy Market, By Region, 2009-2018

\$Million

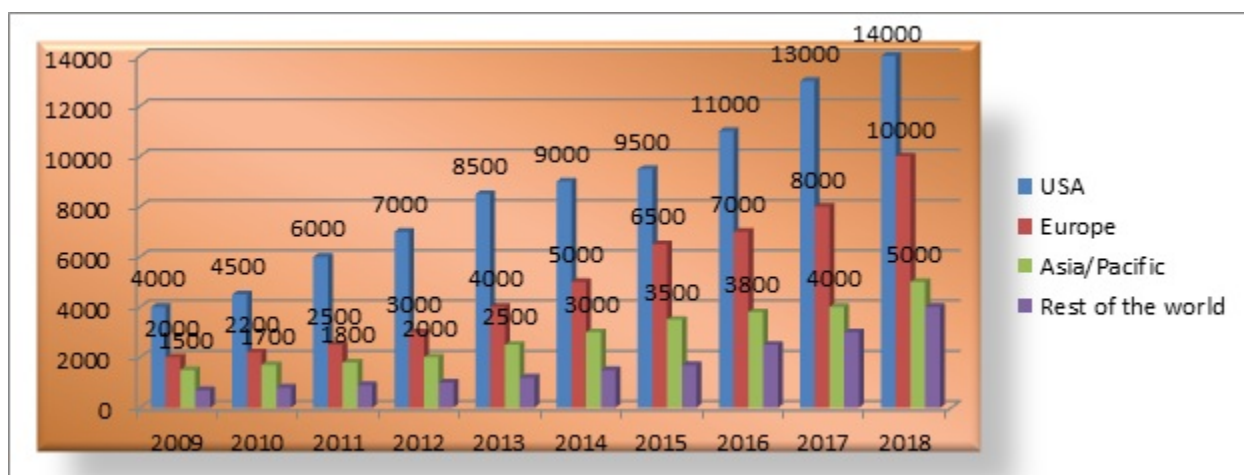


Figure 1: Market by Geography

Why to attend???

Stem Cell Therapy-2015 could be an outstanding event that brings along a novel and International mixture of researchers, doctors, leading universities and stemcell analysis establishments creating the conference an ideal platform to share knowledge, adoptive collaborations across trade and world, and assess rising technologies across the world. World-renowned speakers, the most recent techniques, tactics, and the newest updates in cellscience fields are assurances of this conference.

UAS Major Universities which deals with Stem Cell Research

University of Washington/Hutchinson Cancer Center
 Oregon Stem Cell Center
 University of California Davis
 University of California San Francisco
 University of California Berkeley
 Stanford University
 Mayo Clinic

Major Stem Cell Organization Worldwide:

Norwegian Center for Stem Cell Research
 France I-stem
 Stem Cell & Regenerative Medicine Ctr, Beijing
 Stem Cell Research Centre, Korea
 NSW Stem Cell Network
 Monash University of Stem Cell Labs
 Australian Stem Cell Centre

Target Audience:

Eminent personalities, Directors, CEO, President, Vice-president, Organizations, Associations heads and Professors, Research scientists,

Stem Cell laboratory heads, Post-docs, Students other affiliates related to the area of Stem cell research, stem cell line companies can be as Target Audience.

Market Analysis of Stem Cell Therapy:

The global market for stem cell products was \$3.8 billion in 2011. This market is expected to reach nearly \$4.3 billion in 2012 and \$6.6 billion by 2016, increasing at a compound annual growth rate (CAGR) of 11.7% from 2011 to 2016.

Americas is the largest region of global stem cell market, with a market share of about \$2.0 billion in 2013. The region is projected to increase to nearly \$3.9 billion by 2018, with a CAGR of 13.9% for the period of 2013 to 2018

Europe is the second largest segment of the global stem cell market and is expected to grow at a CAGR of 13.4% reaching about \$2.4 billion by 2018 from nearly \$1.4 billion in 2013.

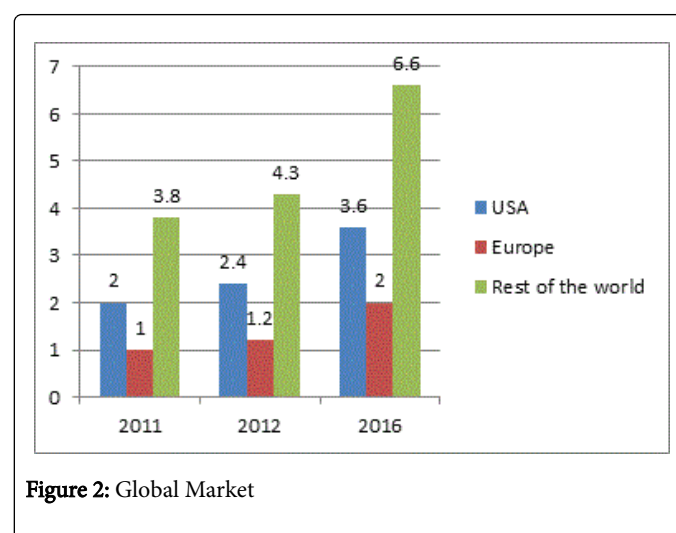


Figure 2: Global Market

General Trends within the Stem Cell Sector

Trends within the Stem Cell Sector

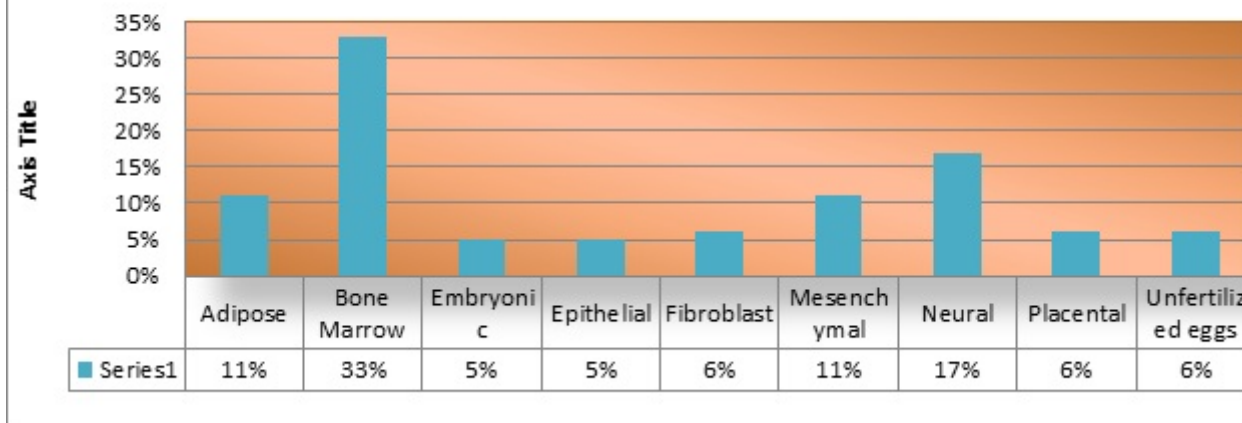


Figure 3: This Statistics shows that Most popular sources of stem cells are adult bone marrow/blood and neural tissues

Stem Cell Software's:

Cryus : Cryus is developed specially for Cord Blood Banks, Donor Centers, Stem Cells Collection Centers, Biotech Laboratories and Tissue Banks.

Label-InnThe: Which allows to record the donor or the patient personal data into the database and generates the Donation Identification Number (DIN) according to ICCBBA international standard ISBT128. It serves as labelling software for blood samples and Stem Cells products.

Products Manufactured By Industry Related to Stem Cell:

RoboSep™-16 is the latest RoboSep™ instrument ingenious for performing fully-automated cell separation from a huge number of samples. Using EasySep™, the column-free immunomagnetic cell separation system, RoboSep™-16 isolates desired cells from a wide range of samples from different species, tissue sources or sizes using positive or negative selection. Through an intuitive user interface, the RoboSep™-16 simultaneously isolates cells from up to sixteen samples with minimal hands on time. By automating all reagent and sample handling steps, and through the use of disposable pipette tips, the RoboSep™-16 rapidly isolates all desired cells while minimizing the risk of sample cross-contamination. After completion of the cell isolation procedure, cells of interest are immediately available for any downstream application.

The EasySep™ Mouse CD25 Regulatory T Cell Positive Selection Kit is designed to isolate highly purified CD25+ cells from single cell suspensions of splenocytes or other tissues by positive selection.

Desired cells are labeled with antibodies and magnetic particles. The cells are separated without columns using an EasySep™ magnet. Unwanted cells are simply poured off, while desired cells remain in the tube. Isolated cells are immediately ready for downstream applications such as flow cytometry, cell culture, or suppression assays.

Featured Research:

Gene therapy gives assurance for severe combined immunodeficiency, Researchers have initiated that gene therapy using a improved delivery system, or vector, can restore the immune systems of children with X-linked severe combined immunodeficiency (SCID-X1), a rare, life-threatening inherited condition that primarily affects boys. Previous efforts to treat SCID-X1 with gene therapy were initially efficacious, but approximately one-quarter of the children developed leukemia two to five years after treatment. Results from a study partially funded by the National Institute of Allergy and Infectious Diseases (NIAID), a component of the National Institutes of Health (NIH), suggest that the new vector is equally effective at restoring immunity and may be safer than previous approaches.

- References:
- <http://www.stemcell.com/en/Products/All-Products/EasySep-Mouse-CD25-Regulatory-T-Cell-Positive-Selection-Kit.aspx>
- <http://seekingalpha.com/article/1347281-investing-in-the-stem-cell-sector-an-overview>
- <http://mbbnet.umn.edu/scmap/scresearchmap.html>
- <http://biopharmguy.com/links/company-by-location-stem-cells.php>
- <http://www.marketwired.com/press-release/latest-research-shows-stem-cell-product-market-to-reach-6-billion-by-2016-1688406.htm>