

Stem cell intel

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Each quarter, "Stem cell intel" will provide you with the latest product news, a column from a leading expert, upcoming industry events, and easy access to technical tools such as publications, protocols, FAQs, and more. To subscribe to "Stem cell intel," go to lifetechnologies.com/stemcellintel.

Product news



Pluripotent stem cell (PSC) cryopreservation and recovery

The PSC Cryopreservation Kit is a new product optimized for maximum post-thaw viability and recovery of cryopreserved pluripotent and human embryonic stem cells. When compared to other cryopreservation mediums like FBS, the PSC Cryopreservation Kit offers increased speed, efficiency, and reliability.



Off-the-shelf human mesenchymal stem cells (MSCs) and neural stem cells (NSCs)

These cells offer researchers:

- Minimized assay variability, as they are manufactured using good manufacturing practices
- Improved functionality studies with immature, high-potency MSCs
- No observed tumorigenicity or toxicity in GLP-compliant animal studies

A Certificate of Analysis is available for each lot to document the quality control specifications, test results, and donor information.



Human NSC Immunocytochemistry Kit

Confidently assess expression of SOX1, SOX2, nestin, and PAX6 with a kit designed for high performance in immunocytochemistry analysis of NSCs. Powered by bright, photostable Alexa Fluor® dyes, this kit enables acquisition of high-quality images using commonly available blue, green, red, or orange/red filter sets. Preformulated fixation, permeability, and wash buffers included in the kit offer both convenience and consistency.



Rupa's corner

The phenotype of a stem cell scientist

As a global customer training manager, I have the privilege of visiting stem cell scientists around the world. In the last 18 months, I have visited scientists not just from the US, UK, and Canada, but also from China, Korea, Singapore, and Australia.

Although these scientists work on a wide range of projects, after I had spent time with all of them one thing was unmistakably clear: they're all meticulous, hard-working, fastidious, and even superstitious about taking care of their stem cells. They spend countless hours every day of the week making sure that their cells are happy and healthy.

I found it amazing to see that these qualities transcend the boundaries of language, culture, geography, and age—not genetic phenotypes. It warms my heart when I think of them, and regardless of whether they play rock music in the lab, insist on always using the same incubator, or wearing their lucky orange shirt every time they electroporate their cells, they're connected because they're incredibly excited to be a part of something bigger than themselves!

– **Nirupama (Rupa) Shevde**, PhD, Stem Cell Specialist and Customer Training Manager

Technical highlights

Disease modeling using stem cells

Parkinson's disease (PD) is a progressive neurodegenerative disorder that affects 1% of people over age 60 and more than 5 million individuals worldwide. We have collaborated with The Parkinson's Institute to demonstrate how to develop cellular models to identify drugs that may ameliorate the underlying processes of PD or to understand the environmental factors that impact the development of PD. The absence of physiologically relevant cellular models for PD represents a major bottleneck for PD research. There is an urgent need for novel models that accelerate the discovery of disease mechanisms and drug targets, as well as for screening purposes to accelerate the development of clinical and therapeutic applications. Patient-specific induced pluripotent stem cell (iPSC)-derived cell types have therefore become attractive tools for disease modeling *in vitro*.

Within this collaboration, PD model systems were developed using iPSCs generated from diseased fibroblasts collected at the institute.

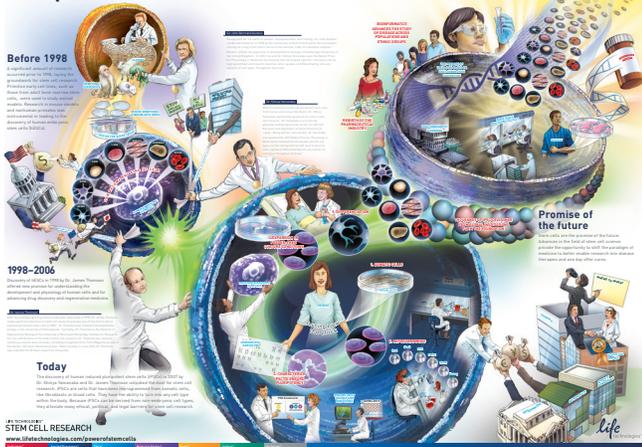
To learn how the research was done, download the free white papers at lifetechnologies.com/diseasemodels.

Frequently asked questions (FAQs)

When you refer to our FAQs, you're getting in easy-to-digest pieces the same kind of attention and support that you see in our LifeLab™ training sessions, technical support calls, and user manuals and protocols.

- In the CytoTune®-iPS 2.0 Sendai Reprogramming Kit FAQs, get information on the differences between the original kit and version 2.0, how the Sendai virus works, how this reprogramming method is different from lentiviral systems, what to expect of your cells during growth and reprogramming, and much more
- In the Epi5™ Episomal Reprogramming Kit FAQs, we share tips and tricks in addition to background information about the vectors available in the kit, the benefits of working with a viral-free, integration-free reprogramming system, electroporation conditions, and how to identify iPSCs
- In the TaqMan® hPSC ScoreCard™ Panel FAQs, learn about generating and preparing samples, sample loading techniques for 96-well and 384-well plate configurations, managing the gene expression assay, data analysis with hPSC ScoreCard™ analysis software, sample results, and many other hints

The power of stem cells



Celebrate the power of stem cell research

To celebrate your work and honor the work of those before you, we have created a unique stem cell poster.

Request your free poster at
lifetechnologies.com/scposter.

Events

4th International Conference on Stem Cell Engineering

March 16–19, 2014

Coronado, CA, USA

Presented by the Society of Biological Engineering (SBE) and the International Society for Stem Cell Research (ISSCR), this meeting brings together engineers, biologists, and clinicians who are working on cellular therapies in order to accelerate progress towards designing the stem cell and its environment.

Life Technologies Stem Cell Training Workshop

April 8–10, 2014

Glasgow, UK

Six workshops are held each year, providing customers with hands-on stem cell training in techniques for culturing and characterizing human embryonic stem cells (hESCs) and induced pluripotent stem cells (iPSCs), as well as reprogramming techniques for the creation of iPSCs. Whether you are new to pluripotent stem cell research or need a refresher course, our R&D scientists can provide detailed stem cell training so you can feel confident using stem cells in your research.

International Society for Stem Cell Research Annual Meeting

June 18–21, 2014

Vancouver, Canada

The International Society for Stem Cell Research (ISSCR) Annual Meeting is the preeminent event for the stem cell field and is attended by the world's top researchers. Be sure to visit us at booth #829 as well as our Innovation Showcase talks on Thursday, June 19, at 11:30 a.m.–12:30 p.m.

Find out more at lifetechnologies.com/stemcellintel

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