

Stem Cell Research Products

Propel your stem cell research



What's the best way to accelerate my stem cell research?

With a head start! Our targeted
regulators, antibodies and kits will give you
an edge over the competition...
and your research will progress
swimmingly.

That's what's in it for you. EMD Chemicals

Pioneering Stem Cell Research Products

**Give your stem cell research a head start with your leading supplier
of Calbiochem® small molecule regulators**

For decades, EMD Chemicals has been your trusted source of inhibitors, biochemicals, antibodies, proteins, and kits that have been cited in thousands of peer-reviewed publications. In our continued endeavor to be your trusted source of reliable products, our highly trained scientists make every effort to review the latest developments in stem cell research and to provide you with targeted reagents and kits necessary to help you jump-start your research.

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**Get a head start on stem cell research with
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**Obtain accurate and on-time answers from
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Head start your
Stem Cell
research by visiting
our website...



www.emdbiosciences.com/StemCells

We offer a range of products for stem cell research

Below are some examples of products offered

Small Molecule Regulators	Catalog Name	Brief Description
	GSK-3 Inhibitor IX (Cat. No. 361550)	Activates the Wnt-signaling pathway and sustains pluripotency in human and murine ESCs (embryonic stem cells).
	Stem Cell Proliferation Inhibitor (Cat. No. 569620)	Acts as a natural inhibitor of pluripotent hematopoietic stem cell proliferation.
	U0126 (Cat. No. 662005)	Acts as an immunosuppressant by effectively blocking IL-2 synthesis and T cell proliferation without affecting the long-term outcomes of either T cell activation or tolerance.
	Y-27632 (Cat. No. 688000)	Prevents apoptosis and enhances the survival and cloning efficiency of dissociated ESCs without affecting their pluripotency.

Growth Factors and Cytokines	Catalog Name	Brief Description
	rhFGF-2 (Cat. No. 341595)	Stimulates proliferation of a wide variety of stem cells. Potent mitogen for bone cells.
	rhSCF (Cat. No. 569600)	Hematopoietic growth factor that stimulates the growth of cells of multiple lineages.
	hTGF- β 1 (Cat. No. 616450)	Promotes apoptosis in resting human B lymphocytes, glioma cells, and trigeminal neurinoma cells.

Lineage Marker Antibodies	Catalog Name	Brief Description
	Nanog pAb (Cat. No. SC1000)	Nanog directs propagation of undifferentiated ESCs. It is restricted to founder cells from which ESCs can be derived.
	Sox2 mAb (245610) (Cat. No. SC1002)	Sox2 plays a role in specifying the first three lineages that are present at egg implantation.
	Notch 1 mAb (8G10) (Cat. No. 491010)	Notch 1 is a transmembrane protein involved in the development and determination of cell-fate.

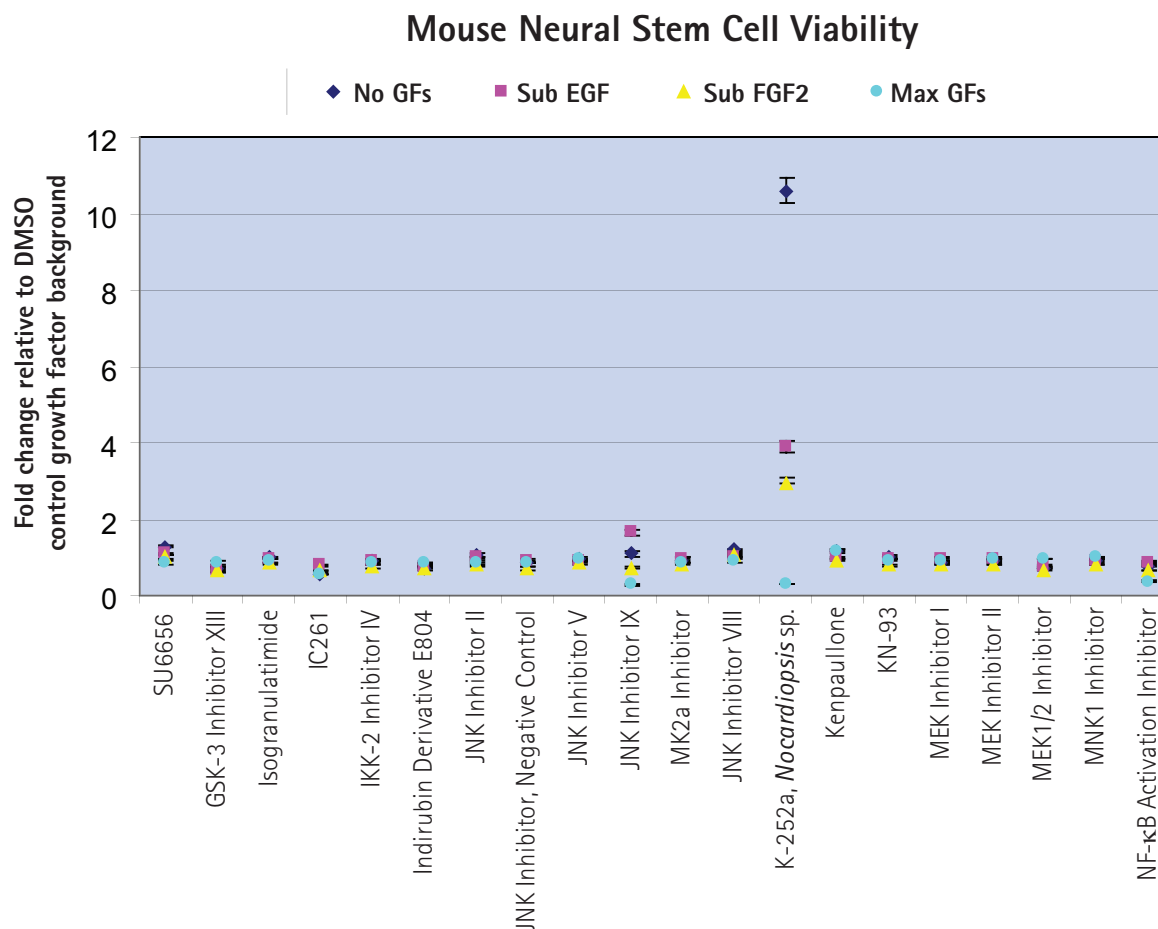
Related Antibodies and Kits	Catalog Name	Brief Description
	APC (Ab-7) mAb (CC-1) (Cat. No. OP80)	APC modulates ESC differentiation through the Wnt signaling pathway.
	c-Myc (Ab-1) mAb (9E10) (Cat. No. OP10)	Amplification of the <i>c-myc</i> gene has been found in several types of human tumors and is a key regulator of stem cell renewal.
	VEGF ELISA Kit (Cat. No. QIA51)	Quantifies VEGF levels in human cell culture supernatants, serum, and plasma samples.
	TGF- α ELISA Kit (Cat. No. QIA61)	Quantifies TGF- α in human serum, cell lysates, tissue culture supernatants, and plasma samples.

Accessory Products	Catalog Name	Brief Description
	Fibronectin, Human Plasma (Cat. No. 341635)	Native fibronectin purified from human plasma. Effective agent for promoting attachment of cells to commonly-used culture substrates.
	FluorPreserve™ Reagent (Cat. No. 345787)	A water-soluble, non-fluorescent mounting medium that provides a semi-permanent seal for long-term storage of slide preparations. For use with Fluorescein, Rhodamine, Texas Red, Cy2™, Cy3®, Cy5®, Phycoerythrin, and Allophycocyanin.
	G 418 Sulfate (Cat. No. 345810)	Widely used in the selection of eukaryotic expression vectors carrying the bacterial <i>neoR/kanR</i> genes.
	L-Glutamine (Cat. No. 3520)	An unstable essential component in cell culture applications.

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Get the Edge on Stem Cell Research with Calbiochem® Small Molecule Regulators

Effective Screening of Inhibitors for Influence on Proliferation and Survival of Mouse Neural Stem Cells



InhibitorSelect™ 96-Well Protein Kinase Inhibitor Libraries I & II (160 inhibitors; Cat. No. 539744 and 539745) were screened for influence on proliferation and survival of mouse neural stem cells (mNS) in an ATP bioluminescence cell viability assay. mNS cells were plated at 3,000 cells/well and viability assay performed after 2 days of incubation. Each compound was tested in each of four growth factor backgrounds:

- (A) No GFs – No Growth Factors (to identify survival/proliferation factors)
- (B) Sub EGF – Sub-optimal EGF (to identify inhibitors/potentiators)
20pg/ml EGF
- (C) Sub FGF2 – Sub-optimal FGF2 (to identify inhibitors/potentiators)
500pg/ml FGF2
- (D) Max GFs – Maximal EGF + FGF2 (to identify inhibitors/potentiators) 20ng/ml EGF + 20ng/mL FGF2

Results for 20 inhibitors are presented as mean data (of n=4 wells per condition) with error bars indicating standard error of the mean (SEM). The presence of inhibitor K-252a, *Nocardiosis* sp. (Cat. No. 420297) alone in the culture media resulted in a 10-fold mNS cell viability.

Data courtesy of Donna McLaren, Stem Cell Sciences, Cambridge, UK

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Orders

Phone 800 854 3417

Fax 800 776 0999

Technical Support

Phone 800 628 8470

E-mail calbiochem@emdchemicals.com

Visit our website

www.emdbiosciences.com/calbiochem

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