

Small Molecules, Cytokines and Growth Factors for Stem Cell Research

Overview

Stemgent's extensive portfolio of small molecules, cytokines and growth factors target the major stem cell signaling pathways aiding stem cell researchers in regulating cellular reprogramming, self-renewal/maintenance and differentiation of pluripotent stem cells. The portfolio includes a proprietary synthetic retinoid for regulating neural differentiation. *Newly added* WH-4-023, SB590885 and IM-12 are three kinase inhibitors supporting derivation and maintenance of naïve human pluripotent stem cells as referenced in the October 2014 *Cell Stem Cell* paper by Jaenisch and coworkers titled "Systematic identification of culture conditions for induction and maintenance of naïve human pluripotency."

Extensive Portfolio in Multiple Formats

Recognized worldwide, Stemgent's Stemolecule Portfolio, focuses on small molecules affecting cellular reprogramming of somatic cells to iPS cells, self-renewal/maintenance and differentiation of pluripotent stem cells. Stemgent's portfolio covers small molecules for regulating a number of signaling pathways including TGFβ/BMP, Wnt, Hedgehog, FGF/MAPK and Integrin. Many of the major small molecules including CHIR99021, PD0325901, SB431542 and LDN-193189 are available in multiple sizes and formats including powder and ready-to-use solutions and custom formats.

Proprietary Technology for Regulating Stem Cell Differentiation

ReproCELL's Reinnervate ec23® synthetic retinoid is a heat and light-stable substitute for all-trans retinoic acid (ATRA), unlike other all-trans retinoic acids that are light and heat sensitive. The stability of ec23 enables reproducible neural differentiation from pluripotent stem cells.

Features

- Modulate the major stem cell signaling pathways
- Tested negative for cytotoxicity

Small Molecules Supporting Naïve Pluripotent Stem Cells

Stemgent's new addition of WH-4-023, SB590885 and IM-12 kinase inhibitor small molecules coupled with Stemgent's PD0325901 MEK inhibitor and Y27632 ROCK inhibitor small molecules, Stemfactor human LIF and Stemfactor Activin A cytokines make up the 5i/L/A media supplement described by Theunissen¹ for the self-renewal of naïve human stem cells necessary for ground state pluripotency.

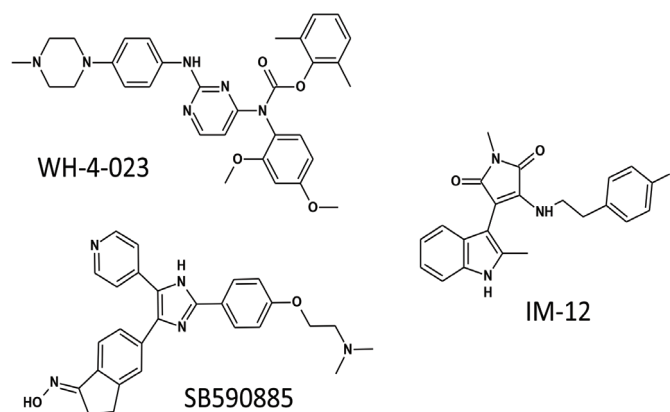


FIGURE 1. Structures of new compounds

Related Stem Cell Products and Services

- Antibodies
- RNA Reprogramming reagents and kits
- Culture media for hES/iPS cell culture and cellular reprogramming
- Services – Custom induced pluripotent (iPS) cell line generation
- Training – RNA Reprogramming

References

1. Theunissen TW; Powell BE; Wang H; Mitalipova M; Faddah DA; Reddy J; Fan ZP; Maetzel D; Ganz K; Shi L; Lungjangwa T; Imsoonthomruska S; Stelzer T; Rangarajan S; D'Alessio A; Zhang J; Gao Q; Dawlaty MM; Young RA; Gray NS; Jaenisch R. "Systemic identification of culture conditions for induction and maintenance of naïve human pluripotency." *Cell Stem Cell* 15: 471 (2014).

ReproCELL brings together three trusted brands to create a beginning-to-end stem cell solution with convenient one stop shopping.



Stemgent Stemolecules™ Small Molecules

PRODUCT NAME	QUANTITY	CAT. NO
A769662	10 mg	04-0052
A83-01	2 mg	04-0014
A83-02	10 mg	04-0014-10
ALK5 Inhibitor	1 mg	04-0015
All-Trans Retinoic Acid	100 mg	04-0021
AM580	5 mg	04-0077
BI-D1870	10 mg	04-0051
BIO	2 mg	04-0003
BIX01294	5 mg	04-0002
CD437	5 mg	04-0078
CHIR99021	2 mg	04-0004
CHIR99021 in Solution	2 mg (10 mM)	04-0004-02
CHIR99021	10 mg	04-0004-10
Cyclopamine	2 mg	04-0022
DAPT	5 mg	04-0041
Dorsomorphin	2 mg	04-0024
Doxycycline hyclate	10 mg	04-0016
ec23 Synthetic Retinoic	5 mg	SR-P002
ec23 Synthetic Retinoic	2 x 5 mg	SR-P002-2
Forskolin	10 mg	04-0025
GDC-0941	5 mg	04-0047
GSK429286A	2 mg	04-0049
IDE-1	2 mg	04-0026
IDE-2	2 mg	04-0027
IM-12 (GSK-3β Inhibitor)	2 mg	04-0081
IPA-3	5 mg	04-0037
KAAD-Cyclopamine	100 µg	04-0028
KP372-1	5 mg	04-0044
Ku-0063794	2 mg	04-0050
LDN-193189	2 mg	04-0074
LDN-193189 in Solution	2 mg (10 mM)	04-0074-02
LDN-193189	10 mg	04-0074-10

Stemolecules (cont.)

PRODUCT NAME	QUANTITY	CAT. NO
LY411575	5 mg	04-0054
PD0325901	2 mg	04-0006
PD0325901 in Solution	2 mg (10 mM)	04-0006-02
PD0325901	10 mg	04-0006-10
PD173074	2 mg	04-0008
Pifithrin-µ	5 mg	04-0039
PS48	5 mg	04-0076
Purmorphamine	5 mg	04-0009
Pyrintegrin	1 mg	04-0072
R(+)-Bay K 8644	5 mg	04-0013
RG108	10 mg	04-0001
ROCK II Inhibitor	2 mg	04-0030
SB431542	5 mg	04-0010
SB431542 in Solution	5 mg (10 mM)	04-0010-05
SB431542	10 mg	04-0010-10
SB590885 (BRAF Inhibitor)	2 mg	04-0080
SC1 (Pluripotin)	1 mg	04-0011
SHH Antagonist	2 mg	04-0032
SMO Antagonist	2 mg	04-0031
Sodium Butyrate	500 mg	04-0005
Thiazovivin	1 mg	04-0017
Tranilcypromine hydrochloride	10 mg	04-0033
Valproic Acid	5 g	04-0007
WH-4-023 (SRC Inhibitor)	2 mg	04-0079
Wnt Inhibitor IWP-2	2 mg	04-0034
Wnt Inhibitor IWP-3	2 mg	04-0035
Wnt Inhibitor IWP-4	2 mg	04-0036
XAV939	2 mg	04-0046
Y27632	2 mg	04-0012
Y27632 in Solution	2 mg (10 mM)	04-0012-02
Y27632	10 mg	04-0012-10

Stemgent Stemfactor™ Cytokines & Proteins

PRODUCT NAME	QUANTITY	CAT. NO
Activin A, Human Recombinant	5 µg	03-0001
FGF-basic, Human Recombinant	50 µg	03-0002
TGF-β1, Human Recombinant	5 µg	03-0004
Noggin, Human Recombinant	10 µg	03-0006
BMP-4, Human Recombinant	10 µg	03-0007
Sonic Hedgehog, Human Recombinant	25 µg	03-0008
LIF, Mouse Recombinant	1 ml, 10 µg/mL	03-0011
LIF, Mouse Recombinant	1 ml, 100 µg/mL	03-0011-100
LIF, Human Recombinant	1 ml, 10 µg/mL	03-0016
LIF, Human Recombinant	1 ml, 100 µg/mL	03-0016-100
B18R Recombinant Protein, Carrier-free	50 µg	03-0017

5i/L/A Media Supplement

PRODUCT NAME	QUANTITY	CAT. NO
WH-4-023 SRC Inhibitor	2 mg	04-0079
SB590885 BRAF Inhibitor	2 mg	04-0080
IM-12 GSK-3β Inhibitor	2 mg	04-0081
PD0325901 MEK inhibitor	2 mg	04-0006
Y27632 ROCK inhibitor	2 mg	04-0012
LIF, Human Recombinant	1 mL, 10 µg/mL	03-0016
Activin A, Human Recombinant	5 µg	03-0001

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