Product Information

Axon ID: 5005 **Batch:** 1

Product Name: Stem Cell LSC Inhibitor Set
Also termed as: LSB/CHIR Inhibitor Set

Content: Set of three inhibitors: LDN 193189 hydrochloride, SB 431542 and CHIR99021

* Size of Set: 2 mg or 5 mg of each inhibitor in the set, individually packed into a glass vial (1.5 mL, screw cap with Silicone/PTFE septa or 4 mL with crew cap).
* Three inhibitors are in powder form (high purity: 99%), ready to be reconstituted freshly to their 10 mM solutions in DMSO (or in pure warer for LDN 193189 hydrochloride) respectively.

Description: A convenient set of BMP inhibitor LDN 193189 hydrochloride (Axon 1509), TGF-beta inhibitor SB 431542 (Axon 1661) and GSK3 inhibitor CHIR99021 (Axon 1386) (termed as LSC or LSB/CHIR by their name abbreviation), for differentiation of human pluripotent stem cells (hPSCs).

Combining two-factor neuronal programming with small molecule–based inhibition of GSK-3β by CHIR99021 (2 µM) and SMAD signaling by LDN 193189 (0.5 µM) and SB 431542 (10 µM), converted postnatal human fibroblasts into functional neuron-like cells with yields up to >200% and neuronal purities up to >80%.

LSC (or LSB/CHIR) inhibitor cocktail protocol can be further extended; with adding SU 5402 (Axon 1667) and DAPT (Axon 1484) to form LSB3i, a 5i inhibitor set (Axon 5007), for rapid differentiating hPSCs into nociceptors.

Axon ID / Batch	Component	Set Size (2 mg each)	Set Size (5 mg each)	Batch MW
1509 - B8	LDN 193189 trihydrochloride	1 vial x 2 mg	1 vial x 5 mg	497.42
1661 - B12	SB 431542	1 vial x 2 mg	1 vial x 5 mg	402.40
1386 - B14	CHIR99021	1 vial x 2 mg	1 vial x 5 mg	469.84

Stock Solution: Instruction to prepare stock solution in DMSO or H2O:
10 mM solution of LDN 193189 trihydrochloride (2 mg in 404.3 µl, 5 mg in 1010.7 µl H2O or DMSO);
10 mM solution of SB 431542 (2 mg in 497.0 µl; 5 mg in 1242.5 µl DMSO);
10 mM solution of CHIR99021 (2 mg in 425.7 µl; 5 mg in 1064.2 µl DMSO)
(*Samples in solutions can be provided upon your request. Please contact us.)

Storage: 4 ºC or below for samples in powder form; their DMSO or H2O stock solutions, once prepared, can be stored at -20 ºC and below for 6 months. Our recommedation is to use it freshly within 1 month. Protect from light and air!

Shipping: Powder samples can be shipped at ambient temperature.

Reference:

1. J. Ladewig et al. Small molecules enable highly efficient neuronal conversion of human fibroblasts. Nature Methods 2012, 9, 575–578.

2. S.M. Chambers et al. Combined small-molecule inhibition accelerates developmental timing and converts human pluripotent stem cells into nociceptors. Nature Biotechnol. 2012, 30, 715-720.

Source Information: LDN193189 hydrochloride, SB431542 and CHIR99021 from Axon Medchem have been procured by many labs as drug standards for generating reliable and reproducible biological data, evidenced by many recent publications. They are highly pure drugs used in stem cell research. Be right about your drugs!

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