Technical Data Sheet: RepSox

Catalog Number	SML06B
Synonyms	ALK5 inhibitor II, ALK5 Inhibitor, ALK5i, E-616452, SJN2511
Size	10 mg
Description	RepSox is a potent and selective inhibitor of the TGF-β type 1 receptor (TGFβRI)/ALK5 that exhibits cell permeability and specifically inhibits ALK5 autophosphorylation with IC_{50} of 4 nM. When used in conjunction with CHIR99021 (Cat. No. SML01B), LDN193189 (Cat. No. SML05B), and Y27632 (SML13B), among others, RepSox aids in the generation of functional human pancreatic beta cells from human pluripotent stem cells (PSCs) (Pagliuca, et al.). RepSox has also been shown to contribute to the reprogramming of mouse embryonic fibroblasts to iPSCs (Subramanyam, et al.), in addition to the induction of human fibroblasts into neuronal cells for research on Alzheimer's disease (Hu, et al).
Molecular Weight	287.32
Molecular Formula	$C_{17}H_{13}N_5$
Chemical Name	2-(3-(6-methylpyridin-2-yl)-1H-pyrazol-4-yl)-1,5-naphthyridine
CAS Number	446859-33-2
Target	TGF-β Receptor
Appearance	Light yellow to yellow (Solid)
Purity	≥95% by LCMS
Solubility and Reconstitution	Soluble in DMSO up to 100 mM, for example: 10 mg/34.804 mL = 0.287 mg/mL = 1 mM 10 mg/6.961 mL = 1.437 mg/mL = 5 mM 10 mg/3.480 mL = 2.874 mg/mL = 10 mM 10 mg/1.740 mL = 5.747 mg/mL = 20 mM
Storage Temperature and Stability	Powder: -20°C 3 years 4°C 2 years In solvent: -80°C 6 months -20°C 1 month
References	Hu, et al. 2015. Direct conversion of normal and Alzheimer's disease human fibroblasts into neuronal cells by small molecules. Cell Stem Cell. 17(2): 204-212. Pagliuca, et al. 2014. Generation of functional human pancreatic β cells in vitro. Cell 159: 428-439. Subramanyam, et al. 2011. Multiple targets of miR-302 and miR-372 promote reprogramming of human fibroblasts to induced pluripotent stem cells. Nature Biotechnology. 29:443-448.

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