

Small Molecules

SIS3

Activin/NODAL/TGF- β pathway inhibitor; Inhibits SMAD3

Catalog # 73962
73964

500 μ g
1 mg



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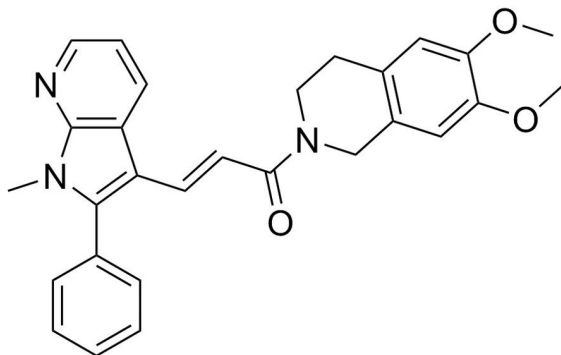
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Product Description

SIS3 (specific inhibitor of SMAD3) is a cell-permeable selective inhibitor of transforming growth factor β 1 (TGF- β 1)-dependent SMAD3 phosphorylation (IC_{50} = 3 μ M) and SMAD3-mediated cellular signaling (Jinnin et al.). SIS3 has no effect on SMAD2, p38 mitogen-activated protein kinase (MAPK), extracellular signal-regulated kinase (ERK), or phosphoinositide 3-kinases.

Molecular Name:	SIS3
Alternative Names:	Smad3 inhibitor
CAS Number:	1009104-85-1
Chemical Formula:	$C_{28}H_{27}N_3O_3$
Molecular Weight:	453.5 g/mol
Purity:	$\geq 98\%$
Chemical Name:	1-(3,4-dihydro-6,7-dimethoxy-2(1H)-isoquinoliny)-3-(1-methyl-2-phenyl-1H-pyrrolo[2,3-b]pyridin-3-yl)-2-propen-1-one

Structure:



Properties

Physical Appearance:	A crystalline solid
Storage:	Product stable at -20°C as supplied. Protect product from prolonged exposure to light. For long-term storage store with a desiccant. For product expiry date, please contact techsupport@stemcell.com .
Solubility:	<ul style="list-style-type: none">· DMSO ≤ 65 mM· Absolute ethanol ≤ 65 mM For example, to prepare a 10 mM stock solution in DMSO, resuspend 0.5 mg in 110 μ L of DMSO.

Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application.

For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity.

Published Applications

DIFFERENTIATION

- Facilitates the production of anterior ectoderm from mouse induced pluripotent stem cells (Oshima et al.).
- Inhibits myofibroblast differentiation of normal human dermal fibroblasts (Jinnin et al.).

References

Jinnin M et al. (2006) Characterization of SIS3, a novel specific inhibitor of Smad3, and its effect on transforming growth factor- β 1-induced extracellular matrix expression. *Mol Pharmacol* 69(2): 597–607.

Oshima K et al. (2010) Mechanosensitive hair cell-like cells from embryonic and induced pluripotent stem cells. *Cell* 141(4): 704–16.

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