Small Molecules

PluriSIn-1

Oleic acid biosynthesis pathway inhibitor; Inhibits stearoyl-CoA desaturase (SCD1)

Catalog #	72822	10 mg
	72824	50 mg

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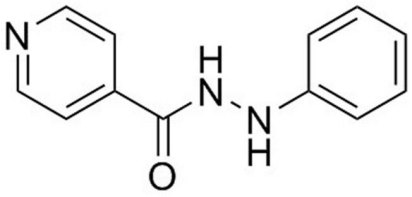
Product Description

PluriSIn-1 is an N-acyl phenylhydrazine derivative that inhibits stearoyl-CoA desaturase, a key enzyme for lipid metabolism that is expressed in human pluripotent stem cells (Ben-David et al.).

Molecular Name:	PluriSIn-1
Alternative Names:	N'-phenyl-hydrazine-Isonicotinic acid; NSC 14613
CAS Number:	91396-88-2
Chemical Formula:	$C_{12}H_{11}N_3O$
Molecular Weight:	213.2 g/mol
Purity:	≥ 95%
Chemical Name:	N'-phenylpyridine-4-carbohydrazide
Structure:	

Properties

Physical Appearance:	A crystalline solid
Storage:	Product stable at -20°C as supplied. Protect from prolonged exposure to light. Stable as supplied for 12 months from date of receipt.
Solubility:	· Absolute ethanol ≤ 90 mM · DMSO ≤ 140 mM For example, to prepare a 10 mM stock solution in DMSO, resuspend 1 mg in 469 µL of fresh 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. Compound has low solubility in aqueous media. 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
· Selectively eliminates undifferentiated human embryonic stem (ES) and induced pluripotent stem (iPS) cells while sparing differentiated cells, and prevents teratoma formation in transplanted mice (Ben-David et al.).
· Induces apoptosis of Nanog-positive iPS cells in vitro, while leaving iPS cell-derived cardiomyocytes unaffected (Zhang et al.).

References

Ben-David U et al. (2013) Selective elimination of human pluripotent stem cells by an oleate synthesis inhibitor discovered in a high-throughput screen. Cell Stem Cell 12(2): 167–79.
Zhang L et al. (2014) Inhibition of stearoyl-coA desaturase selectively eliminates tumorigenic Nanog-positive cells: improving the safety of iPS cell transplantation to myocardium. Cell Cycle 13(5): 762–71.

Related Small Molecules

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This product is hazardous. Please refer to the Safety Data Sheet (SDS).