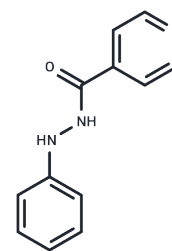


## PluriSIn 1

## Chemical Properties

CAS No. :	91396-88-2
Formula:	C <sub>12</sub> H <sub>11</sub> N <sub>3</sub> O
Molecular Weight:	213.24
Storage:	Powder: -20°C for 3 years   In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.



## Biological Description

Description	PluriSIn 1 (NSC 14613) is an inhibitor of stearoyl-CoA desaturase (SCD1), the key enzyme in oleic acid biosynthesis, highlighting a unique role for lipid metabolism in hPSCs.
Targets(IC50)	Apoptosis, Dehydrogenase, Stearoyl-CoA Desaturase (SCD)
In vivo	PluriSIn 1 causes central cell death by activating apoptosis. PluriSIn 1 produces ER stress by interacting with hPSCs. PluriSIn 1 (20 μM) has an inhibitory effect on teratoma formation by undifferentiated hPSCs, and it also inhibits the development of mPSCs and mouse embryos. PluriSIn 1 (20 μM) induces a protein-like response to hPSCs by interacting with hPSCs. PluriSIn 1 (20 μM) induced an approximately 30% reduction in protein synthesis by interacting with hPSCs. In hPSCs, PluriSIn 1 produced potent, rapid and selective cytotoxicity and induced a ~65% reduction in stearoyl coenzyme A dehydrogenase activity.
Kinase Assay	SCD1 activity assays: Cells are plated in 6-well plates at a density of 50k to 100k cells per well. 24 h later, 20 μM PluriSIn #1 or 0.2% DMSO-control are added to the cells. After 12 h of incubation at 37 °C, 5% CO <sub>2</sub> , the old medium is removed, cells are washed with PBS, and new medium containing 2.3 μM of 0.75 UCi [1- <sup>14</sup> C] Stearic Acid is added. The cells are incubated for up to 4 h at 37 °C, 5% CO <sub>2</sub> . After the incubation period, the medium is discarded and the cells are washed 3 times with 2 mL of PBS. 2 mL of the mixture n-hexane: isopropanol (3:2 v:v) are added, and the cells are incubated for 30 min at 37 °C, 5% CO <sub>2</sub> . 2 mL Folch solution (chloroform: methanol, 2:1, v:v) are subsequently added. The liquid is transferred to tubes for phase partition by adding 1 mL water. The lower organic phase is evaporated and used for lipid saponification and TLC separation of the free [1- <sup>14</sup> C] Stearic Acid (substrate) and [1- <sup>14</sup> C] Oleic Acid (formed product). Lipids extracted from the cells are applied to TLC plates previously immersed in 10% NO <sub>3</sub> Ag and activated at 120°Cx60 min. Unlabeled stearic and oleic acid are added to each application point as carriers and as internal standards for identification. The plates are run with a solvent mixture of Chloroform:MeOH:AcH:DDW (90:8:1:0.8). The free fatty acids are detected by U.V. after spraying the TLC with a 2',7'-dichlorofluorescein solution. The spots corresponding to stearic and oleic acid are scraped and the radioactivity counted in a scintillating counter. SCD1 desaturase activity is calculated from the percent conversion of substrate to product and the conversion to pmol/min/10 <sup>6</sup> cells.

## A DRUG SCREENING EXPERT

Cell Research	Relative cell numbers are determined by fixating the cells with 0.5% glutardialdehyde and staining with methylene blue dissolved in 0.1 M boric acid (pH 8.5). Color extraction is performed using 0.1 M hydrochloric acid, and the staining (which is proportional to cell number) is quantitated by measuring absorbance at 650 nM.(Only for Reference)
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### Solubility Information

Solubility	DMSO: 250 mg/mL (1172.39 mM),Sonication is recommended. Ethanol: 21.3 mg/mL (99.89 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 5 mg/mL (23.45 mM),Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

### Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.6896 mL	23.4478 mL	46.8955 mL
5 mM	0.9379 mL	4.6896 mL	9.3791 mL
10 mM	0.469 mL	2.3448 mL	4.6896 mL
50 mM	0.0938 mL	0.469 mL	0.9379 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

Ben-David U, et al. Cell Stem Cell, 2013, 12(2), 167-179.

Zhang L, Yi Y, Wang T, et al.25-Hydroxycholesterol inhibits classical swine fever virus entry into porcine alveolar macrophages by depleting plasma membrane cholesterol.Veterinary Microbiology.2023: 109668.

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