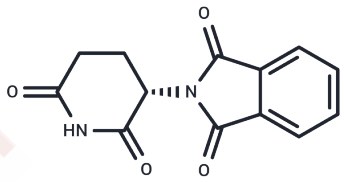
Data Sheet (Cat.No.T12644L)

TargetMol

(S)-Thalidomide

Chemical Properties



CAS No. : 841-67-8

Formula: C13H10N2O4

Molecular Weight: 258.23

Storage: Keep away from direct sunlight
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	(S)-Thalidomide ((S)-(-)-Thalidomide) is the S-isomer of Thalidomide with immunomodulatory, anti-inflammatory, anticancer, anti-angiogenic, and pro-apoptotic activities, used in studying leprosy erythema nodosum and myeloma.
Targets(IC50)	Apoptosis,Autophagy,Ligands for E3 Ligase,Molecular Glues
In vitro	In U266 cells cultured with (S)-Thalidomide, a decrease in cell viability (IC50: 362 μM) was observed, reflecting a significant increase in apoptosis (for example, on the 3rd day at 200 μM: 40.3+/-3.1% vs. 3.2+/-0.4% on the 0th day; P<0.001). Furthermore, the expression profile of genes involved in angiogenesis and apoptosis changed, with the most significant alterations observed in the expression of apoptosis-related genes[1].
In vivo	Direct exposure of embryos to (S)-Thalidomide does indeed result in limb reduction defects in chick embryos. (S)-Thalidomide affects chick limb transplantation into host embryos in a dose-dependent manner. Moreover, S-thalidomide and S-EM12 are more teratogenic than R-thalidomide and R-EM12[2].

Solubility Information

Solubility	DMSO: 60 mg/mL (232.35 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.8725 mL	19.3626 mL	38.7252 mL
5 mM	0.7745 mL	3.8725 mL	7.745 mL
10 mM	0.3873 mL	1.9363 mL	3.8725 mL
50 mM	0.0775 mL	0.3873 mL	0.7745 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

Liu WM, et al. s-thalidomide has a greater effect on apoptosis than angiogenesis in a multiple myeloma cell line. Hematol J. 2004;5(3):247-54.

Stephens TD. The effect of thalidomide in chicken embryos. Birth Defects Res A Clin Mol Teratol. 2009 Aug;85(8):725-31.

Murphy S, et al. Enantioselectivity of thalidomide serum and tissue concentrations in a rat glioma model and effects of combination treatment with cisplatin and BCNU. J Pharm Pharmacol. 2007 Jan;59(1):105-14.

Tokunaga E, et al. Understanding the Thalidomide Chirality in Biological Processes by the Self-disproportionation of Enantiomers. Sci Rep. 2018 Nov 20;8(1):17131.