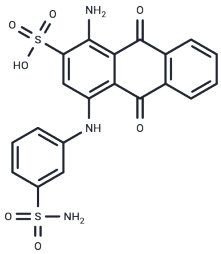
Data Sheet (Cat.No.T12260)

TargetMol

NSC117079

Chemical Properties

CAS No. :	500363-63-3
Formula:	C20H15N3O7S2
Molecular Weight:	473.48
Storage:	Store at low temperature 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	NSC117079 is a novel PHLPP1/2 (Pleckstrin homology domain and leucine rich repeat protein phosphatase) inhibitor that activates neuronal AKT and ameliorates staurosporine-induced cell death in neurons.
Targets(IC50)	Phosphatase
In vitro	The in vitro activity of NSC117079 was evaluated in primary rat cortical neurons and astrocytes. Neurons were pretreated with NSC117079 (10–100μM) for 35 minutes after nutrient deprivation, or co-treated with staurosporine (50–200nM) for 24 hours; astrocytes were treated for 24 hours after seeding. NSC117079 activated AKT signaling and showed protective effects in neurons, but inhibited signaling and reduced viability in astrocytes [1].
In vivo	The in vivo activity of NSC117079 was evaluated in a mouse model of osteoarthritis induced by destabilization of the medial meniscus (DMM). Twelve-week-old male C57BL/6 mice underwent right knee DMM surgery, followed by a single intra-articular injection of NSC117079 (8mM, 3μL; estimated intra-articular concentration ~4mM) at 7 weeks post-surgery. The results showed that NSC117079 significantly reduced mechanical allodynia, preserved normal activity levels, and slowed articular cartilage degradation [2].

Solubility Information

Solubility	DMSO: 40 mg/mL (84.48 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: 2 mg/mL (4.22 mM),Sonication is recommended. *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.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.112 mL	10.5601 mL	21.1202 mL
5 mM	0.4224 mL	2.112 mL	4.224 mL
10 mM	0.2112 mL	1.056 mL	2.112 mL
50 mM	0.0422 mL	0.2112 mL	0.4224 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

Zhu X, et al. Regulation Of Neutrophil Adhesion And Migration By Ph Domain And Leucine Rich Repeat Protein Phosphatase. A35 RECENT ADVANCES IN PHAGOCYTE BIOLOGY / Thematic Poster Session / Sunday, May 20/8:15 AM-4:30 PM / Area G (Hall D, North Building, Lower Level), Moscone Center

Hwang SM, Feigenson M, Begun DL, Shull LC, Culley KL, Otero M, Goldring MB, Ta LE, Kakar S, Bradley EW, Westendorf JJ. Phlpp inhibitors block pain and cartilage degradation associated with osteoarthritis. J Orthop Res. 2018 May;36(5):1487-1497.

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