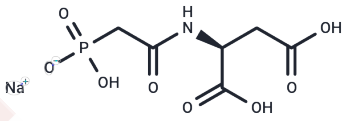
Data Sheet (Cat.No.T12983)

TargetMol

Sparfosic acid trisodium

Chemical Properties



CAS No. : 70962-66-2

Formula: C6H9NNaO8P

Molecular Weight: 277.1

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	Sparfosic acid trisodium is a CAD (carbamoyl-phosphate synthetase 2) inhibitor and also an aspartate transcarbamoyl transferase inhibitor with antitumour activity.
Targets(IC50)	Apoptosis
In vitro	**Method**: Br-1 and L-2 cell lines, established from metastases in nude mice injected with the human tumor cell line MDA-MB-435, were treated with Sparfosic acid trisodium (300 μM) for 12, 24, and 48 hours to evaluate its effects on the cell cycle. **Result**: Following treatment, both cell lines were predominantly arrested in the S phase, with a slightly higher proportion of S phase cells observed in L-2 compared to Br-1 cells. [1]
In vivo	**Method**: Sparfosic acid trisodium was administered intraperitoneally at a dose of 490 mg/kg on days 1, 5, and 9 to tumor-bearing mice implanted with either B16 melanoma or Lewis lung carcinoma, to evaluate its antitumor efficacy. **Result**: In the B16 melanoma model, Sparfosic acid trisodium extended mouse survival by 77% -86% compared to controls. In the Lewis lung carcinoma model, the compound showed high sensitivity; subcutaneous administration on days 1, 5, and 9 **Result**ed in a 50% cure rate in tumor-bearing mice. [3]

Solubility Information

Solubility	DMSO: 160 mg/mL (577.41 mM),Sonication is recommended. H2O: 200 mg/mL (721.76 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 (18.04 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*

In vivo Formulation	*vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.6088 mL	18.044 mL	36.0881 mL
5 mM	0.7218 mL	3.6088 mL	7.2176 mL
10 mM	0.3609 mL	1.8044 mL	3.6088 mL
50 mM	0.0722 mL	0.3609 mL	0.7218 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

Wang J, et al. Elevated cyclin A associated kinase activity promotes sensitivity of metastatic human cancer cells to DNA antimetabolite drug. Int J Oncol. 2015 Aug;47(2):782-90.
Wadler S, et al. Phase II trial of N-(phosphonacetyl)-L-aspartate (PALA), 5-fluorouracil and recombinant interferon-alpha-2b in patients with advanced gastric carcinoma. Eur J Cancer.1996;32A(7):1254-1256.
Johnson RK, et al. Antitumor activity of N-(phosphonacetyl)-L-aspartic acid, a transition-state inhibitor of aspartate transcarbamylase. Cancer Res. 1976;36(8):2720-2725.