

Cystamine

Chemical Properties

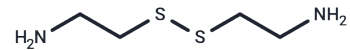
CAS No. : 51-85-4

Formula: C₄H₁₂N₂S₂

Molecular Weight: 152.28

Storage: Pure form: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



Biological Description

Description	Cystamine (2,2'-Disulfanediyldiethanamine) is an inhibitor of transglutaminase and inhibits caspase-3 with an IC ₅₀ value of 23.6 μM. Cystamine can be used in studies about Huntington's diseases.
Targets(IC ₅₀)	Apoptosis,Glutaminase,Caspase
In vitro	In human neuroblastoma SH-SY5Y cells, Cystamine inhibits the MG132-mediated and H ₂ O ₂ -mediated activation of caspase-3 in a concentration-dependent manner. Cystamine (250 μM) robustly results in an increasement of the glutathione level[1].
In vivo	In R6/2 transgenic HD mice, oral and intraperitoneal administration of Cystamine (112-225 mg/kg) reduces the levels of transglutaminase and N(Sigma)-(gamma-L-glutamyl)-L-lysin. Cystamine extends survival and improves body weight and motor performance [2].

Solubility Information

Solubility	DMSO: 100 mg/mL (656.69 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: 3.3 mg/mL (21.67 mM),Sonication is recommended. 10% DMSO+90% Saline: 10 mg/mL (65.67 mM),Solution. <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	6.5669 mL	32.8343 mL	65.6685 mL
5 mM	1.3134 mL	6.5669 mL	13.1337 mL
10 mM	0.6567 mL	3.2834 mL	6.5669 mL
50 mM	0.1313 mL	0.6567 mL	1.3134 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

Mathieu Lesort, et al. Cystamine inhibits caspase activity. Implications for the treatment of polyglutamine disorders. *J Biol Chem.* 2003 Feb 7;278(6):3825-30.

Alpaslan Dedeoglu, et al. Therapeutic effects of cystamine in a murine model of Huntington's disease. *J Neurosci.* 2002 Oct 15;22(20):8942-50.

Thomas M Jeitner, et al. Cystamine and cysteamine as inhibitors of transglutaminase activity in vivo. *Biosci Rep.* 2018 Sep 5;38(5):BSR20180691.

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Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481