Data Sheet (Cat.No.T5968)

TargetMol

DL-Homocysteine thiolactone hydrochloride

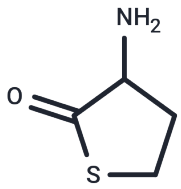
Chemical Properties

CAS No. : 6038-19-3

Formula: C4H8ClNOS

Molecular Weight: 153.63

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	DL-Homocysteine thiolactone hydrochloride (DL-Homocysteinethiolactone hydrochloride) is a cysteine derivative that binds to and induces conformational changes in various plasma proteins, slowing coagulation and inducing oxidative stress. It decreases left ventricular systolic blood pressure and cardiac force and induces seizures in vivo.
Targets(IC50)	Endogenous Metabolite
In vitro	Acuted administration of DL-Homocysteinethiolactone hydrochloride (DL-Hcy TLHC) induces significant reduction of CF and partly of heart contractility, which confirms its cardiodepressive effect.?The simultaneous application of different inhibitors of important cardiovascular gasotransmitters with DL-Hcy TLHC shows that additional HO-1 inhibition induces more powerful effects than NOS or CSE inhibition.?The inhibition of CO production significantly increases DL-Hcy TLHC-induced effects on cardiodynamic parameters, while NOS and CSE inhibition only affects CF. Acuted administration of DL-Hcy TLHC and different gasotransmitter inhibitors does not show prooxidant potential[1].
Cell Research	Only groups of hearts in which the CPP/CF relationship was studied twice in the absence of drugs were included in the study. After perfusion in the absence of any medication (control conditions), hearts were perfused with: 10?μM DL-Homocysteinethiolactone hydrochloride (DL-Hcy TLHC); 10?μM DL-Hcy TLHC + 30?μM L-NAME (N ω-Nitro-L-arginine methyl ester, an inhibitor of NOS); 10?μM DL-Hcy TLHC + 10?μM DL-PAG (DL-Propargylglycine, an inhibitor of cystathionine gamma lyase-CSE); 10?μM DL-Hcy TLHC + 10?μM ZnPPR IX (protoporphyrin IX zinc, an inhibitor of HO-1) and compared to the respective controls[1].

Solubility Information

Solubility	DMSO: 25 mg/mL (162.73 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 (13.02 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	6.5091 mL	32.5457 mL	65.0915 mL
5 mM	1.3018 mL	6.5091 mL	13.0183 mL
10 mM	0.6509 mL	3.2546 mL	6.5091 mL
50 mM	0.1302 mL	0.6509 mL	1.3018 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

Zivkovic V , Jakovljevic V , Pechanova O , et al. Effects of DL-Homocysteine Thiolactone on Cardiac Contractility, Coronary Flow, and Oxidative Stress Markers in the Isolated Rat Heart: The Role of Different Gasotransmitters[J]. BioMed Research International, 2013, 2013(22):318471.

Andrade C R D , Tirapelli C R , Haddad R , et al. Hyperhomocysteinemia induced by feeding rats diets rich in dl-homocysteine thiolactone promotes alterations on carotid reactivity independent of arterial structure[J]. 2009, 51 (4):291-298.