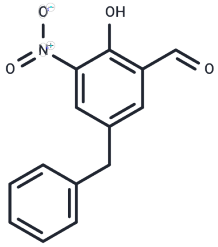
Data Sheet (Cat.No.T10860)

TargetMol

Col003

Chemical Properties



CAS No. : 328565-16-8

Formula: C14H11NO4

Molecular Weight: 257.24

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	Col003 is a selective and potent inhibitor of Hsp47, competitively binding to the collagen-binding site on Hsp47 (IC50: 1.8 μM). It is useful for researching fibrosis.
Targets(IC50)	HSP
In vitro	A molecule AK778 and its cleavage product Col003 competitively inhibited the interaction and caused the inhibition of collagen secretion by destabilizing the collagen triple helix. Structural information obtained with NMR analysis revealed that Col003 competitively binds to the collagen-binding site on Hsp47. Col003 has an inhibitory effect on the interaction of Hsp47 with collagen in Hsp47 KO / MEFs. Col003 (0.01-100 μM) exhibits dose-dependent effects on the interactions of Hsp47 with collagen (IC50: 1.8 μM for Hsp47). Col003 (100 μM; 20-60 mins) has an inhibitory effect on collagen secretion and accumulation. It inhibits collagen secretion by wild-type MEFs and the secretion is not abolished completely. Col003 (100 μM) degrades α,α′-dipyridyl collagen secretion completely by incubation with trypsin at a high temperature (50 °C for 15 min), but is resistant to trypsin digestion at 37 °C.

Solubility Information

Solubility	DMSO: 188 mg/mL (730.84 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 (7.77 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	3.8874 mL	19.4371 mL	38.8742 mL
5 mM	0.7775 mL	3.8874 mL	7.7748 mL
10 mM	0.3887 mL	1.9437 mL	3.8874 mL
50 mM	0.0777 mL	0.3887 mL	0.7775 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

Ito S, et al. A small-molecule compound inhibits a collagen-specific molecular chaperone and could represent a potential remedy for fibrosis. J Biol Chem. 2017 Dec 8;292(49):20076-20085.
Wang J, Bai M, Zhang C, et al.Natural compound fraxinellone ameliorates intestinal fibrosis in mice via direct intervention of HSP47-collagen interaction in the epithelium.Acta Pharmacologica Sinica.2023: 1-10.