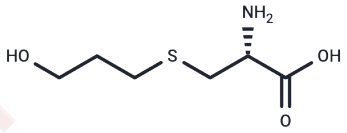
Data Sheet (Cat.No.T1481)

TargetMol

Fudosteine

Chemical Properties



CAS No. : 13189-98-5

Formula: C6H13NO3S

Molecular Weight: 179.24

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	Fudosteine is a novel mucoactive agent and a MUC5AC mucin hypersecretion inhibitor.
Targets(IC50)	Amino Acids and Derivatives,Mucin
In vitro	Fudosteine (FDS), a unique mucolytic antioxidant, shows a stronger scavenging effect of Peroxynitrite than N-acetyl-cysteine on DCDHF oxidation in vitro and in sputum macrophages, and also on Peroxynitrite-induced BSA nitration. Fudosteine (0.1 mM) reduces Peroxynitrite-enhanced interleukin (IL)-1beta-induced IL-8 release and restores corticosteroid sensitivity defected by Peroxynitrite more potently than those induced by H(2)O(2) in A549 airway epithelial cells. [1] Fudosteine significantly inhibits increases in GRO/CINC-1 at 10-100 mg/kg, and neutrophils and goblet cells at 30 and 100 mg/kg. Fudosteine inhibits goblet cell hyperplasia by inhibiting GRO/CINC-1 production and/or neutrophil migration. [2] Fudosteine treatment reduces the expression levels of p-p38 MAPK and p-ERK in vivo and of p-ERK in vitro. Fudosteine inhibits MUC5AC mucin hypersecretion by reducing MUC5AC gene expression and the effects of fudosteine are associated with the inhibition of extracellular signal-related kinase and p38 mitogen-activated protein kinase in vivo and extracellular signal-related kinase in vitro. [3] Fudosteine significantly suppresses blood flow of tracheal microvasculature increased by SO(2) exposure. Fudosteine scavenges superoxide anion generated from rat neutrophils, and enzymatically generated from xanthine oxidase-acetaldehyde reaction. [4]
In vivo	Fudosteine (500 mg/kg, p.o.) significantly increases the amount of dye excreted into the respiratory tract. Fudosteine increases chloride ion concentration in broncho-alveolar lavage of rats. [5]

Solubility Information

Solubility	H2O: 10 mM,Sonication is recommended. DMSO: Insoluble, (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	5.5791 mL	27.8956 mL	55.7911 mL
5 mM	1.1158 mL	5.5791 mL	11.1582 mL
10 mM	0.5579 mL	2.7896 mL	5.5791 mL
50 mM	0.1116 mL	0.5579 mL	1.1158 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

Osoata GO, et al. Chest, 2009, 135(6), 1513-1520.
Komatsu H, et al. Pulm Pharmacol Ther, 2005, 18(2), 121-127.
Rhee CK, et al. Eur Respir J, 2008, 32(5), 1195-1202.
Takahashi K, et al. Environ Toxicol Pharmacol, 2001, 10(3), 89-93.
Takahashi K, et al. Nihon Yakurigaku Zasshi, 2000, 116(6), 371-378.