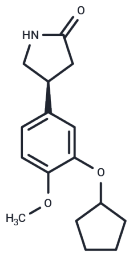
Data Sheet (Cat.No.T6649)

TargetMol

(S)-(+)-Rolipram

Chemical Properties



CAS No. : 85416-73-5

Formula: C16H21NO3

Molecular Weight: 275.34

Appearance: no data available

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

Biological Description

Description	(S)-(+)-Rolipram ((+)-Rolipram) inhibits human monocyte cyclic AMP-specific PDE4 with an IC50 of 0.75 μM and exhibits anti-inflammatory and anti-depressant activity in the central nervous system, though it is less potent than its R enantiomer.
Targets(IC50)	Apoptosis,PDE
In vitro	S-(+)-Rolipram suppresses LPS-induced TNFα expression from human monocyte through inhibiting PDE4 with IC50 about 2 μM. [1] 1 μM S-(+)-Rolipram significantly antagonizes ovalbumin (OA) induced concentration-related contractions of tracheal rings which are isolated from OA-sensitized guinea pigs. [2] S-(+)-Rolipram inhibits PDE4 activity in a CHO-K1 cell line which stably expresses a recombinant full length human PDE-4a with IC50 at 450 nM. [3] Treatment of the human glioma cell line A-172 with Rolipram (including both R- and S-enantiomers of Rolipram) results in increased expression of the cell cycle inhibitors p21 [Cip1] and p27 [Kip1], and decreased activity of cdk2, a cyclindependent kinase essential for cell cycle progression. As a result, the proliferation of A-172 cells is inhibited, with induction of a G1 block. Eventually, Rolipram-treated A-172 cells undergo differentiation, which is followed by apoptotic cell death. [4]
In vivo	In anesthetized, ventilated OA-sensitive guinea pigs, S-(+)-Rolipram reduces OA-induced bronchoconstriction with ID50 values of approximately 0.25 mg/kg i.v. Histamine- and leukotriene D4-induced bronchoconstriction are not affected by doses of S-(+)-Rolipram which abolishes the response to OA. Higher doses (3-10 mg/kg) reduce histamine-, but not the leukotriene D4-induced bronchoconstriction. In conscious OA-sensitive guinea pigs, intragastric pretreatment with S-(+)-Rolipram dose-dependently reduces both the OA-induced decreases in specific conductance as well as the corresponding pulmonary eosinophil influx as assessed by both bronchoalveolar lavage and histological evaluation. [2]

Solubility Information

Solubility	DMSO: 27.5 mg/mL (99.88 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.6319 mL	18.1594 mL	36.3187 mL
5 mM	0.7264 mL	3.6319 mL	7.2637 mL
10 mM	0.3632 mL	1.8159 mL	3.6319 mL
50 mM	0.0726 mL	0.3632 mL	0.7264 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.

Reference

Souness JE, et al. Br J Pharmacol, 1996, 118(3), 649-658
Underwood DC, et al. J Pharmacol Exp Ther, 1993, 266(1), 306-313
Pon DJ, et al. Cell Biochem Biophys, 1998, 29(1-2), 159-178.
Chen TC, et al. Cancer Biol Ther, 2002, 1(3), 268-276.

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