Montelukast sodium

Cat. No.: HY-13315

CAS No.: 151767-02-1

Molecular Formula: $C_{35}H_{35}ClNNaO_3S$

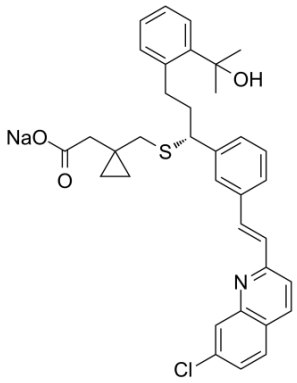
Molecular Weight: 608.17

Target: Leukotriene Receptor

Pathway: GPCR/G Protein

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (82.21 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	1.6443 mL	8.2214 mL	16.4428 mL
	5 mM	0.3289 mL	1.6443 mL	3.2886 mL
	10 mM	0.1644 mL	0.8221 mL	1.6443 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 1.25 mg/mL (2.06 mM); Suspended solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Montelukast sodium is a potent, selective and orally active antagonist of cysteinyl leukotriene receptor 1 (Cysltr1). Montelukast sodium can be used for the reseach of asthma and liver injury. Montelukast sodium also has an antioxidant effect in intestinal ischemia-reperfusion injury, and could reduce cardiac damage[1].

IC_{50} & Target

$CysLT_1$

In Vitro

Montelukast (5 μM; 1 h) inhibits APAP-induced cell damage[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Montelukast (3 mg/kg; oral gavage) protects against APAP-induced hepatotoxicity in mice[1].

Montelukast (1 mg/kg; miniosmotic pump administration) reduces the airway remodeling changes observed in OVA-treated mice and blocks the actions of cysteinyl leukotrienes (LT) C4, D4, and E4 mediated by the CysLT1 receptor[2].

Montelukast (1 mg/kg; miniosmotic pump administration) reduces the elevated levels of IL-4 and IL-13 found in the BAL fluid of OVA-treated mice[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	C57BL/6J mice (8-week-old; 22-25 g) are induced acute hepatic injury[1]
Dosage:	3 mg/kg
Administration:	Oral gavage 1 h after saline or APAP administration
Result:	Decreased serum levels of alanine transaminase (ALT) and aspartate aminotransferase (AST), and alleviated liver damage.

CUSTOMER VALIDATION

- Artif Cell Nanomed B. 2019 Dec;47(1):4234-4239.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Pu S, et, al. Montelukast Prevents Mice Against Acetaminophen-Induced Liver Injury. Front Pharmacol. 2019 Sep 18; 10:1070.

[2]. William RHJ, et, al. A role for cysteinyl leukotrienes in airway remodeling in a mouse asthma model. Am J Respir Crit Care Med. 2002 Jan 1; 165(1): 108-16.

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