(S)-Indoximod

Cat. No.: HY-N0707

CAS No.: 21339-55-9

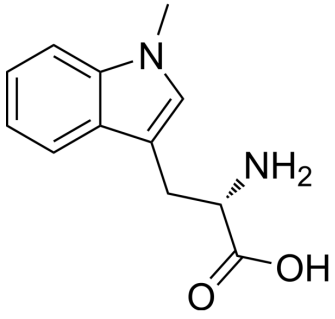
Molecular Formula: $C_{12}H_{14}N_2O_2$

Molecular Weight: 218.25

Target: Indoleamine 2,3-Dioxygenase (IDO)

Pathway: Metabolic Enzyme/Protease

Storage: 4°C, protect from light
* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 4.81 mg/mL (22.04 mM; ultrasonic and warming and adjust pH to 4 with HCl and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	4.5819 mL	22.9095 mL	45.8190 mL
	5 mM	0.9164 mL	4.5819 mL	9.1638 mL
	10 mM	0.4582 mL	2.2910 mL	4.5819 mL

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

In Vivo

1. Add each solvent one by one: 15% Cremophor EL >> 85% Saline
   Solubility: 20 mg/mL (91.64 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 50% PEG300 >> 50% saline
   Solubility: 5 mg/mL (22.91 mM); Suspended solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

(S)-Indoximod (1-Methyl-L-tryptophan) is an inhibitor of indoleamine 2,3-dioxygenase (IDO) (K_i: 19 μM). (S)-Indoximod can be used for the research of cancer and neurological disease[1][2][3][4].

IC_{50} & Target

Indoleamine 2,3-Dioxygenase (IDO)[1]

In Vitro

(S)-Indoximod (750 μM, 24 h) reduces IDO activity in HEK293 cells transduced with human IDO1 gene[4].
(S)-Indoximod (0.5 mM, 48 h) makes the cells released from IFN-γ (100 ng/mL)-mediated G1 cell cycle arrest, and then promotes the apoptosis of hepatic stellate cells[6].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

(S)-Indoximod (5 mg/day, i.p. for 3 weeks) reverses the Bacillus Calmette-Guerin (BCG)-induced neurotoxicity in mice[3].

(S)-Indoximod (200 mg/kg, oral gavage) shows delayed, lasts longer renoprotective effect than D isomer, and increases survival in the IRI rat model[4].

(S)-Indoximod (1-9 mg/kg, i.p.) reverses cognitive, anxiety, and depressive-like behavior in bile duct ligation (BDL) rats[5].

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

Animal Model:	Bile duct ligation (BDL) rats[5]
Dosage:	1-9 mg/kg
Administration:	i.p., After the rats recovered for 7 days from BDL surgery.
Result:	Increased the sucrose preference. Prevents the increased number of buried marbles. Improved learning and memory function.

REFERENCES

[1]. Rana P, et al. Comparison of fluoxetine and 1-methyl-L-tryptophan in treatment of depression-like illness in Bacillus Calmette-Guerin-induced inflammatory model of depression in mice. J Basic Clin Physiol Pharmacol. 2016 Nov 1;27(6):569-576.

[2]. Čepcová D, et al. The protective effect of 1-methyltryptophan isomers in renal ischemia-reperfusion injury is not exclusively dependent on indolamine 2,3-dioxygenase inhibition. Biomed Pharmacother. 2021 Mar;135:111180.

[3]. Jiang X, et al. Role of the indoleamine-2,3-dioxygenase/kynurenine pathway of tryptophan metabolism in behavioral alterations in a hepatic encephalopathy rat model. J Neuroinflammation. 2018 Jan 4;15(1):3.

[4]. Oh JE, et al. 1-Methyl-L-tryptophan promotes the apoptosis of hepatic stellate cells arrested by interferon-γ by increasing the expression of IFN-γRβ, IRF-1 and FAS. Int J Mol Med. 2017 Aug;40(2):576-582.

[5]. Huang GL, et, al. PEG-Poly(1-Methyl-l-Tryptophan)-Based Polymeric Micelles as Enzymatically Activated Inhibitors of Indoleamine 2,3-Dioxygenase. Nanomaterials (Basel). 2019 May 9;9(5):719.

[6]. Liu X, et, al. 1-L-MT, an IDO inhibitor, prevented colitis-associated cancer by inducing CDC20 inhibition-mediated mitotic death of colon cancer cells. Int J Cancer. 2018 Sep 15;143(6):1516-1529.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA