Carbidopa

Cat. No.: HY-B0311

CAS No.: 28860-95-9

Molecular Formula: $C_{10}H_{14}N_2O_4$

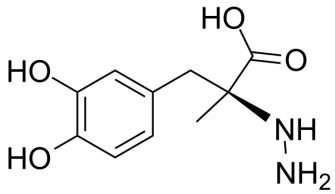
Molecular Weight: 226.23

Target: Aryl Hydrocarbon Receptor

Pathway: Immunology/Inflammation

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 : 10 mg/mL (44.20 mM; Need ultrasonic)

H_2O : < 0.1 mg/mL (insoluble)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	4.4203 mL	22.1014 mL	44.2028 mL
5 mM	0.8841 mL	4.4203 mL	8.8406 mL
10 mM	0.4420 mL	2.2101 mL	4.4203 mL

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

In Vivo

1. Add each solvent one by one: 50% PEG300 >> 50% saline
   Solubility: 10 mg/mL (44.20 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 1 mg/mL (4.42 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 1 mg/mL (4.42 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 1 mg/mL (4.42 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Carbidopa ((S)-(-)-Carbidopa), a peripheral decarboxylase inhibitor, can be used for the research of Parkinson's disease. Carbidopa is a selective aryl hydrocarbon receptor (AhR) modulator. Carbidopa inhibits pancreatic cancer cell and tumor growth[1][2].

In Vitro	Carbidopa ((S)-(-)-Carbidopa) exhibits activities similar to that described for other AhR ligands in BχPC3 and Capan-2 cells, namely the induction of CYP1A1 and CYP1A2, which are inhibited by AhR antagonists such as CH223191[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Carbidopa also induces nuclear uptake of the AhR, and in vivo studies show that carbidopa at a dose of 1 mg/mouse significantly inhibits tumor growth in athymic nude mice bearing BχPC3 cells as xenografts[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Safe S. Carbidopa: a selective Ah receptor modulator (SAhRM). Biochem J. 2017;474(22):3763-3765. Published 2017 Nov 6.

[2]. Fermaglich J. Treatment of Parkinson's disease with carbidopa, a peripheral decarboxylase inhibitor, and levodopa. Med Ann Dist Columbia. 1974;43(12):587-591.

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