p-Ethynylphenylalanine hydrochloride

Cat. No.: HY-23460A

CAS No.: 188640-63-3

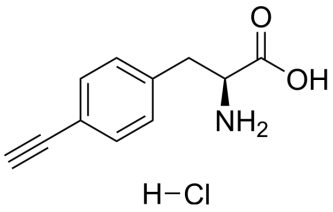
Molecular Formula: $C_{11}H_{12}ClNO_2$

Molecular Weight: 225.67

Target: Tryptophan Hydroxylase

Pathway: Metabolic Enzyme/Protease

Storage: 4°C, sealed storage, away from moisture
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (221.56 mM; ultrasonic and warming and heat to 60°C)
H_2O : 12.5 mg/mL (55.39 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	4.4312 mL	22.1562 mL	44.3125 mL
5 mM	0.8862 mL	4.4312 mL	8.8625 mL
10 mM	0.4431 mL	2.2156 mL	4.4312 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (11.08 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.5 mg/mL (11.08 mM); Suspended solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (11.08 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

p-Ethynylphenylalanine hydrochloride (4-Ethynyl-L-phenylalanine hydrochloride) is a potent, selective, reversible and competitive inhibitor of tryptophan hydroxylase (TPH), with a K_i of 32.6 μM[1]. p-Ethynylphenylalanine (hydrochloride) is a click chemistry reagent, it contains an Alkyne group and can undergo copper-catalyzed azide-alkyne cycloaddition (CuAAc) with molecules containing Azide groups.

IC_{50} & Target

Ki: 32.6 μM (TPH)[1]

In Vitro

p-Ethynylphenylalanine hydrochloride selectively and reversibly inhibits the biosynthesis of serotonin[1].

	?p-Ethynylphenylalanine hydrochloride has a low affinity for various recombinant 5-HT receptors (5-HT_1, 5-HT_2, 5-HT_4, 5-HT $_5$, 5-HT_6, and 5-HT_7)[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	p-Ethynylphenylalanine hydrochloride (30 mg/kg; i.p.) decreases in 5-HT and 5-HIAA levels in the rat midbrain but not in tissue[1]. ?p-Ethynylphenylalanine hydrochloride does not inhibit the aromatic amino acid decarboxylase[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male Sprague-Dawley rats (200 g)[1]
Dosage:	30 mg/kg
Administration:	Intraperitoneal injection
Result:	Decreased in 5-HT and 5-HIAA levels in the rat midbrain.

CUSTOMER VALIDATION

- J Mol Biol. 2022 Jul 2;167716.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Stokes AH, et al. p-ethynylphenylalanine: a potent inhibitor of tryptophan hydroxylase. J Neurochem. 2000 May;74(5):2067-73.

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