Enalaprilat dihydrate

Cat. No.: HY-B0231

CAS No.: 84680-54-6

Molecular Formula: $C_{18}H_{28}N_2O_7$

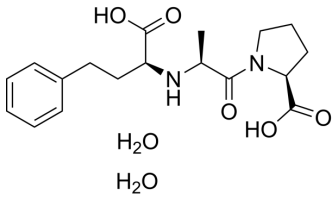
Molecular Weight: 384.42

Target: Angiotensin-converting Enzyme (ACE)

Pathway: Metabolic Enzyme/Protease

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (260.13 mM; Need ultrasonic)

H_2O : 12.5 mg/mL (32.52 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.6013 mL	13.0066 mL	26.0132 mL
5 mM	0.5203 mL	2.6013 mL	5.2026 mL
10 mM	0.2601 mL	1.3007 mL	2.6013 mL

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 25 mg/mL (65.03 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (6.50 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (6.50 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (6.50 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Enalaprilat dihydrate (MK-422), the active metabolite of the oral proagent Enalapril, is a potent, competitive and long-acting angiotensin-converting enzyme (ACE) inhibitor, with an IC_{50} of 1.94 nM. Enalaprilat dihydrate can be used for the research of hypertension[1][2][3].

IC_{50} & Target	IC50: 1.94 nM (ACE)[1]
In Vitro	Enalaprilat (1 nM-10 μM; 24 h) dihydrate attenuates the IGF-I induced neonatal rat cardiac fibroblast growth (30% reduction) in a concentration-dependent fashion, with an IC_{50} of 90 mM[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Enalaprilat (0.01%-2.9% in the eyedrop solution) dihydrate shows significant intraocular pressure (IOP)-lowering effect in rabbits[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Nat Commun. 2023 May 2;14(1):2523.
- Cell Biol Toxicol. 2021 Feb 22.

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REFERENCES

[1]. Ceconi C, et, al. Angiotensin-converting enzyme (ACE) inhibitors have different selectivity for bradykinin binding sites of human somatic ACE. Eur J Pharmacol. 2007 Dec 22;577(1-3):1-6.

[2]. Eickels M, et, al. Angiotensin-converting enzyme (ACE) inhibition attenuates insulin-like growth factor-I (IGF-I) induced cardiac fibroblast proliferation. Br J Pharmacol. 2000 Dec;131(8):1592-6.

[3]. Loftsson T, et, al. Enalaprilat and enalapril maleate eyedrops lower intraocular pressure in rabbits. Acta Ophthalmol. 2010 May;88(3):337-41.

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