Perindopril

Cat. No.: HY-B0130

CAS No.: 82834-16-0

Molecular Formula: $C_{19}H_{32}N_2O_5$

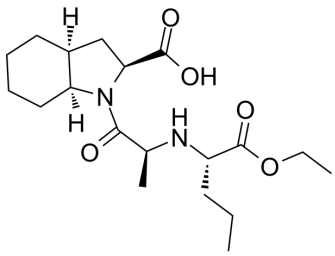
Molecular Weight: 368.47

Target: Angiotensin-converting Enzyme (ACE); NF-κB; STAT; Sirtuin

Pathway: Metabolic Enzyme/Protease; NF-κB; JAK/STAT Signaling; Stem Cell/Wnt; Cell Cycle/DNA Damage; Epigenetics

Storage:

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



SOLVENT & SOLUBILITY

In Vitro

H_2O : 100 mg/mL (271.39 mM; ultrasonic and warming and heat to 80°C)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.7139 mL	13.5696 mL	27.1392 mL
5 mM	0.5428 mL	2.7139 mL	5.4279 mL
10 mM	0.2714 mL	1.3570 mL	2.7139 mL

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

BIOLOGICAL ACTIVITY

Description

Perindopril erbumine is an angiotensin-converting enzyme inhibitor. Perindopril erbumine modulates NFκB and STAT3 signaling and inhibits glial activation and neuroinflammation. Perindopril erbumine can be used for the research of Chronic Kidney Disease and high blood pressure[1][2][3][4].

IC_{50} & Target

STAT3 SIRT3

In Vitro

Perindopril erbumine (1 μM, 24 h) ameliorats gliosis and blunts decrease induced by LPS (HY-D1056) in AT2R expression in Rat astrocytoma cell line (C6) and murine microglial cell line (BV2)[1].

Perindopril erbumine (1 μM, 24 h) prevents IκBα degradation, NFκB nuclear translocation and STAT3 activation induced by LPS (HY-D1056) in C6 and BV2[1].

Perindopril erbumine (1 μM, 24 h) ameliorats the imbalance in the release of inflammatory cytokine and blunts the aberrant ROS production and the nitrite release induced by LPS (HY-D1056) in C6 and BV2[1].

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

In Vivo

Perindopril erbumine (0.1 mg/kg, Oral gavage, once a day for five consecutive days) prevents LPS-induced neuroinflammation in rats[1].
Perindopril erbumine (0.42 mg/kg, Oral, once a day for 4 weeks) with Huangqi-Danshen decoction (HDD) (4.7 g/kg, Oral, once a day for 4 weeks) attenuates adenine-induced Chronic kidney disease (CKD) in rats[2].
Perindopril erbumine (0.4-1.5 mg/kg, Oral, once a day for 4-24 weeks) has a persistent effect on blood pressure in spontaneously hypertensive rats (SHR)[4].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	LPS-induced neuroinflammation rat model[1]
Dosage:	0.1 mg/kg
Administration:	Oral gavage (p.o.)
Result:	Abolished the LPS-induced astroglial and microglial activation. Attenuated LPS-induced TNF-α production. Prevented LPS-induced nuclear translocation of NF-κB. Prevented the AT1R up-regulation and the LPS-induced decrease in the expression of PP2A.

Animal Model:	Adenine-induced chronic kidney disease rats[2]
Dosage:	0.42 mg/kg
Administration:	Oral
Result:	Obviously reduced serum creatinine (Scr) and blood urea nitrogen (BUN) levels. Displayed a marked reduction of tubulointerstitial fibrosis. Exhibited more inhibitory effect on Col-IV expression and a exceed effect of raising OPA-1 expression. Significantly increased Sirtuin3 expression. Prevented mitochondrial fragmentation.

CUSTOMER VALIDATION

- Biomed Pharmacother. 2023 Feb 6;160:114370.
- Br J Pharmacol. 2021 Mar;178(5):1164-1181.
- Biosci Rep. 2021 Oct 29;41(10):BSR20211598.
- Evid-Based Compl Alt. 2022 May 21;2022:5812105.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Bhat S A, et al. Angiotensin receptor blockade modulates NFκB and STAT3 signaling and inhibits glial activation and neuroinflammation better than angiotensin-converting enzyme inhibition [J]. Molecular neurobiology, 2016, 53: 6950-6967.

[2]. Wei X, et al. Combination of perindopril erbumine and huangqi-danshen decoction protects against chronic kidney disease via sirtuin3/mitochondrial dynamics pathway [J]. Evidence-Based Complementary and Alternative Medicine, 2022, 2022.

[3]. Afonso T, et al. Pharmacodynamic evaluation of 4 angiotensin-converting enzyme inhibitors in healthy adult horses [J]. Journal of veterinary internal medicine, 2013, 27(5): 1185-1192.

[4]. Thybo N K, et al. Dose-dependent effects of perindopril on blood pressure and small-artery structure [J]. Hypertension, 1994, 23(5): 659-666.

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