Perindopril erbumine

Cat. No.: HY-B0130A

CAS No.: 107133-36-8

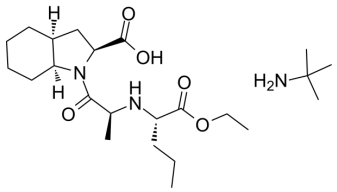
Molecular Formula: $C_{23}H_{43}N_3O_5$

Molecular Weight: 441.6

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

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

H_2O : ≥ 50 mg/mL (113.22 mM)
DMSO : 10 mg/mL (22.64 mM; Need ultrasonic)
* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.2645 mL	11.3225 mL	22.6449 mL
5 mM	0.4529 mL	2.2645 mL	4.5290 mL
10 mM	0.2264 mL	1.1322 mL	2.2645 mL

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

In Vivo

1. Add each solvent one by one: PBS
Solubility: 100 mg/mL (226.45 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Perindopril erbumine is an angiotensin-converting enzyme inhibitor. Perindopril erbumine modulates NF-κB 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

SIRT3 | STAT3

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, NF-κB 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(HY-B0152)-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:	Adenine-induced chronic kidney disease rats[2]
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:	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.

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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.

Caution: Product has not been fully validated for medical applications. For research use only.

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