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Lieferung & Zahlungsart

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Zuschläge

- Mindermengenzuschlag
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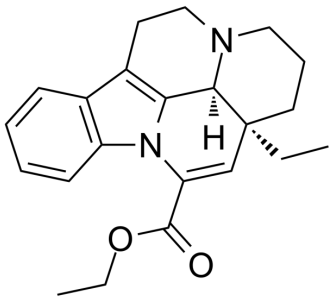
Vinpocetine



Cat. No.: HY-13295

CAS No.: 42971-09-5

Molecular Formula: $C_{22}H_{26}N_2O_2$

Molecular Weight: 350.45

Target: Sodium Channel; IKK; Phosphodiesterase (PDE)

Pathway: Membrane Transporter/Ion Channel; NF-κB; 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

Ethanol : 14.29 mg/mL (40.78 mM; Need ultrasonic)
DMSO : 6.25 mg/mL (17.83 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.8535 mL	14.2674 mL	28.5347 mL
5 mM	0.5707 mL	2.8535 mL	5.7069 mL
10 mM	0.2853 mL	1.4267 mL	2.8535 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: ≥ 0.62 mg/mL (1.77 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 0.62 mg/mL (1.77 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 0.62 mg/mL (1.77 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Vinpocetine (Ethyl apovincaminate) is a derivative of the alkaloid Vincamine that blocks voltage-gated Na^+ channels. The IC_{50} value of Vinpocetine on direct IKK inhibition in the cell-free system is 17.17 μM. Vinpocetine is a phosphodiesterase (PDE) inhibitor and inhibits NF-κB-dependent inflammatory responses by directly targeting IκB kinase complex (IKK), and has been widely used for the treatment of cerebrovascular disorders[1][2][3].

IC_{50} & Target

IKK

	17.17 μM (IC_{50})
In Vitro	Vinpocetine (5-50 μM; 7 hours; VSMCs, HUVECs, A549 cells and RAW264.7 cells) potently inhibits TNF-α-induced NF-κB-dependent transcriptional activity in a dose-dependent manner with an approximate IC_{50} value of 25 μM. Vinpocetine do not have a significant effect on cell viability[1]. Vinpocetine (50 μM; 7 hours; VSMCs, HUVECs, A549 cells and RAW264.7 cells) potently inhibits TNF-α-induced up-regulation of TNF-α, IL-1β, IL-8, MCP-1, VCAM-1, ICAM-1and MIP-2 transcripts in several cell types[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only. RT-PCR[1]

Cell Line:	VSMCs, HUVECs, A549 cells and RAW264.7 cells
Concentration:	50 μM
Incubation Time:	7 hours
Result:	Inhibited TNF-α-induced up-regulation of TNF-α, IL-1β, IL-8, MCP-1, VCAM-1, ICAM-1and MIP-2 transcripts in several cell types.

In Vivo

Vinpocetine (2.5-10 mg/kg; intraperitoneal injection; C57BL/6 mice) potently inhibits TNF-α- or LPS-induced up-regulation of proinflammatory mediators, including TNF-α, IL-1β, and MIP-2, and decreases interstitial infiltration of polymorphonuclear leukocytes in a mouse model of TNF-α- or LPS-induced lung inflammation[1].

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

Animal Model:	C57BL/6 mice (8 weeks of age)[1]
Dosage:	2.5 mg/kg, 5 mg/kg, and 10 mg/kg
Administration:	Intraperitoneal injection
Result:	Inhibited TNF-α- or LPS-induced up-regulation of proinflammatory mediators, including TNF-α, IL-1β, and MIP-2, and decreased interstitial infiltration of polymorphonuclear leukocytes in a mouse model of TNF-α- or LPS-induced lung inflammation.

CUSTOMER VALIDATION

- Nat Commun. 2023 Jun 3;14(1):3224.
- Front Cell Dev Biol. 2021 Feb 4.
- J Cancer Res Clin Oncol. 2023 Mar 31.
- Neuroscience. 2023 Jun 6;S0306-4522(23)00241-5.
- J Investig Med. 2022 May 17;jim-2022-002369.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Kye-Im Jeon et al. Vinpocetine inhibits NF-κB-dependent inflammation via an IKK-dependent but PDE-independent mechanism PNAS May 25, 2010 vol. 107 no. 21 9795-9800

[2]. Patyar S, et al. Role of vinpocetine in cerebrovascular diseases. Pharmacol Rep. 2011;63(3):618-28.

[3]. Alexandre E. Medina Vinpocetine as a potent antiinflammatory agent PNAS June 1, 2010, Vol. 107, No. 22 9921-9922.

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