

Epsilon-V1-2

Chemical Properties

CAS No. : 182683-50-7

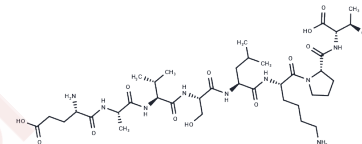
Formula: C₃₇H₆₅N₉O₁₃

Molecular Weight: 843.98

Keep away from moisture

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



Biological Description

Description	Epsilon-V1-2 has been extensively investigated for its function as a PKC epsilon (PKCε) inhibitor. Epsilon-V1-2 has been widely applied in studies addressing ovarian aging, apoptosis in human granulosa cells, cerebral ischemia-reperfusion injury, brain development, hepatocyte insulin signaling, and neuronal cell death under ischemic conditions. Epsilon-V1-2 has been shown to effectively reduce PKCε activity, thereby enabling detailed exploration of regulatory pathways involving mitochondrial dynamics, calcium overload, AKT activation, brain atrophy, insulin resistance, and ferroptosis. Epsilon-V1-2 demonstrates notable therapeutic relevance in models of stroke, SHORT syndrome, hepatic steatosis, and brain injury, supporting its continued evaluation as a potential pharmacological agent across multiple disease contexts.
Targets(IC50)	PKC
In vitro	Epsilon-V1-2 (1 μM, 24 hours) significantly inhibits OA-induced Cx43 Ser368 phosphorylation and protects myocardial gap junctions from OA-induced disruption [2].
In vivo	Epsilon-V1-2 (20 mg/kg/day, subcutaneously implanted with 0.1 mL osmotic pump, administered daily for 4 weeks) significantly improved the beating score of transplanted FVB mouse hearts in C57BL/6 mice [3].

Solubility Information

Solubility	DMSO: 100.00 mg/mL (118.49 mM), Sonication is recommended. H ₂ O: ≥ 80 mg/mL, Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.1849 mL	5.9243 mL	11.8486 mL
5 mM	0.237 mL	1.1849 mL	2.3697 mL
10 mM	0.1185 mL	0.5924 mL	1.1849 mL
50 mM	0.0237 mL	0.1185 mL	0.237 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

M Yedovitzky, et al. Translocation inhibitors define specificity of protein kinase C isoenzymes in pancreatic beta-cells. *J Biol Chem.* 1997 Jan 17;272(3):1417-20.

Yuahn-Sieh Huang, et al. Mechanism of oleic acid-induced gap junctional disassembly in rat cardiomyocytes. *J Mol Cell Cardiol.* 2004 Sep;37(3):755-66.

Tomoyoshi Koyanagi, et al. Pharmacological inhibition of epsilon PKC suppresses chronic inflammation in murine cardiac transplantation model. *J Mol Cell Cardiol.* 2007 Oct;43(4):517-22.

Thompson JW, et al. Epsilon PKC increases brain mitochondrial SIRT1 protein levels via heat shock protein 90 following ischemic preconditioning in rats. *PLoS One.* 2013 Sep 13;8(9):e75753.

Obis T, et al. The novel protein kinase C epsilon isoform at the adult neuromuscular synapse: location, regulation by synaptic activity-dependent muscle contraction through TrkB signaling and coupling to ACh release. *Mol Brain.* 2015 Feb 10;8:8.

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