Epsilon-V1-2

Cat. No.: HY-P0154

CAS No.: 182683-50-7

Molecular Formula: $C_{37}H_{65}N_9O_{13}$

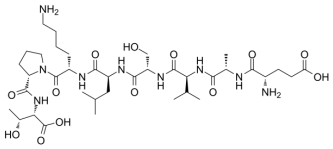
Molecular Weight: 843.96

Sequence Shortening: EAVSLKPT

Target: PKC

Pathway: Epigenetics; TGF-beta/Smad

Storage: Sealed storage, away from moisture
Powder -80°C 2 years
-20°C 1 year
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

H_2O : 50 mg/mL (59.24 mM; Need ultrasonic)

Preparing Stock Solutions	Concentration / Solvent / Mass	1 mg	5 mg	10 mg
	1 mM	1.1849 mL	5.9245 mL	11.8489 mL
	5 mM	0.2370 mL	1.1849 mL	2.3698 mL
	10 mM	0.1185 mL	0.5924 mL	1.1849 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 (118.49 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Epsilon-V1-2 (ε-V1-2), a PKCε-derived peptide, is a selective PKCε inhibitor. Epsilon-V1-2 inhibits the translocationof PKCε, but not α-, β-, and δPKC[1].

IC_{50} & Target

PKCε

In Vitro

Epsilon-V1-2 (ε-V1-2), a PKCε-derived peptide containing the site for its specific receptor for activated C kinase (RACK), inhibits translocation of PKCε and reduces insulin response to glucose[1].
Epsilon-V1-2 (ε-V1-2; 1 μM, 24 hours) treatment significantly inhibits Oleic acid (OA)-induced connexin 43 (Cx43) Ser368 phosphorylation and prevents OA-induced gap junction disassembly in cardiomyocytes[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Epsilon-V1-2 (20 mg/kg/day; osmotic pumps; daily; for 4 weeks) treatment significantly improves the beating score in a murine heterotopic transplantation model. Epsilon-V1-2 reduces infiltration of macrophages and T cells into the cardiac grafts, and decreases parenchymal fibrosis. Epsilon-V1-2 treatment almost abolishes the rise in pro-fibrotic cytokine, TGF-β and monocyte recruiting chemokine MCP-1 levels[3].

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

Animal Model:	C57BL/6J mice transplanted the hearts of FVB mice[3]
Dosage:	20 mg/kg/day
Administration:	0.1 mL osmotic pumps implanted subcutaneously; daily; for 4 weeks
Result:	Significantly improved the beating score throughout the treatment.

CUSTOMER VALIDATION

- Sci Bull. 2023 Jun 7;S2095-9273(23)00371-7.
- Cell Death Dis. 2022 Mar 28;13(3):275.
- Antioxidants (Basel). 2022, 11(9), 1653.

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REFERENCES

[1]. 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.

[2]. 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.

[3]. 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.

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