Selepressin

Cat. No.:	HY-105239
CAS No.:	876296-47-8
Molecular Formula:	$C_{46}H_{73}N_{13}O_{11}S_2$
Molecular Weight:	1048.28
Target:	Vasopressin Receptor
Pathway:	GPCR/G Protein
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.

BIOLOGICAL ACTIVITY

Description

Selepressin (FE 202158) is a selective vasopressin V_{1A} receptor agonist. Selepressin is a potent vasopressor. Selepressin can be used in the research of septic shock[1][2][4].

In Vitro

Selepressin (100 nM, 48 or 72 h) ameliorates thrombin or VEGF-induced HLMVECs barrier dysfunction[4].
Selepressin (1-1000 nM, 72 h) prevents the LPS-Induced loss of VE-cadherin and cortical actin in HLMVECs[4].
Selepressin (100 nM, 48 h) induces the expression of the barrier-protective p53 in HLMVECs[4].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[2]

Cell Line:	HLMVECs
Concentration:	1, 10, 100, 1000 nM
Incubation Time:	24 h, 48 h
Result:	Induced p53 expression levels, but only after treatment of 48 hours at 100 nM.

In Vivo

Selepressin (1 μg/kg/min, left jugular vein infusion for 12 min) increases 38.5% of the mean arterial pressure (MAP) in LPS-induced, fluid-resuscitated rabbit endotoxemia model[2].
Selepressin (7 pmol/kg/min, 10 μL/min, i.v. infusion) blocks vascular leak in ovine severe sepsis[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	LPS-induced, fluid-resuscitated rabbit endotoxemia model[2].
Dosage:	1 μg/kg/min
Administration:	Left jugular vein infusion for 12 min
Result:	Decreased mesenteric blood flow (MBF) and increased mesenteric vascular resistance in non-endotoxemic and endotoxemic rabbits.

REFERENCES

[1]. Russell JA, et al. Selepressin, a novel selective vasopressin V1A agonist, is an effective substitute for norepinephrine in a phase IIa randomized, placebo-controlled trial in septic shock patients. Crit Care. 2017 Aug 15;21(1):213.

[2]. Milano SP, et al. Selepressin, a novel selective V1A receptor agonist: Effect on mesenteric flow and gastric mucosa perfusion in the endotoxemic rabbit. Peptides. 2020 Jul;129:170318.

[3]. Barabutis N, et al. Protective Mechanism of the Selective Vasopressin V1A Receptor Agonist Selepressin against Endothelial Barrier Dysfunction. J Pharmacol Exp Ther. 2020 Nov;375(2):286-295.

[4]. Maybauer MO, et al. The selective vasopressin type 1a receptor agonist selepressin (FE 202158) blocks vascular leak in ovine severe sepsis*. Crit Care Med. 2014 Jul;42(7):e525-e533.

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