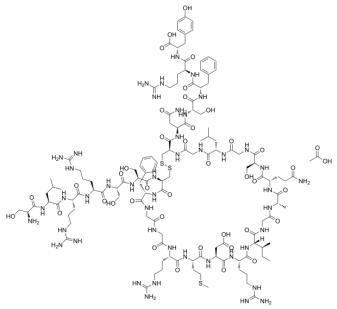
Carperitide acetate



Cat. No.: HY-P1235A

CAS No.: 1366000-58-9

Molecular Formula: $C_{129}H_{207}N_{45}O_{41}S_3$

Molecular Weight: 3140.5

Sequence: Ser-Leu-Arg-Arg-Ser-Ser-Cys-Phe-Gly-Gly-Arg-Met-Asp-Arg-Ile-Gly-Ala-Gln-Ser-Gly-Leu-Gly-Cys-Asn-Ser-Phe-Arg-Tyr (Disulfide bridge: Cys7-Cys23)

Sequence Shortening: SLRRSSCFGGRMDRIGAQSGLGCNSFRY (Disulfide bridge: Cys7-Cys23)

Target: Endothelin Receptor

Pathway: GPCR/G Protein

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 (15.92 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	0.3184 mL	1.5921 mL	3.1842 mL
	5 mM	0.0637 mL	0.3184 mL	0.6368 mL
	10 mM	0.0318 mL	0.1592 mL	0.3184 mL

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

BIOLOGICAL ACTIVITY

Description

Carperitide acetate (Atrial Natriuretic Peptide (ANP) (1-28), human, porcine acetate) is a 28-amino acid hormone, that is normally produced and secreted by the human heart in response to cardiac injury and mechanical stretch. Carperitide acetate inhibits endothelin-1 secretion in a dose-dependent way.

IC_{50} & Target

Endothelin-1[1]

In Vitro

Atrial natriuretic peptide (ANP) is a diuretic, natriuretic, and vasodilatory peptide hormone originally isolated from mammalian hearts. In cultured porcine endothelial cells the inhibition by porcine ANP (1-28) of immunoreactive endothelin-1 secretion after stimulation with Angiotensin II (Ang II) is paralleled by an increase in the cellular cGMP level. Porcine ANP (1-28) strongly inhibits immunoreactive endothelin-1 secretion in porcine aorta after stimulation with Ang II[1]. ANP is a cardiac hormone involved in electrolyte and fluid homeostasis. The inhibition by ANP of endothelin-1 secretion stimulated by angiotensin II (ANGII) and thrombin using cultured human umbilical-vein endothelial cells. Human ANP (1-28) inhibits

immunoreactive (ir)-endothelin-1 secretion and increases cyclic GMP in the human umbilical-vein endothelial cells[2]. In glomeruli from normal rats, Human ^{125}I-ANP (1-28) binds to a single population of high affinity receptors with a mean equilibrium dissociation constant of 0.46 nM. Human ANP (1-28) binds to the glomerular ANP receptor with high affinity stimulated cGMP accumulation. Human ANP (1-28) markedly stimulates cGMP generation, but not cAMP generation in normal rat glomeruli[3].

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

CUSTOMER VALIDATION

- Biofabrication. 2023 Mar 10.
- J Cell Mol Med. 2021 Oct;25(20):9660-9673.

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REFERENCES

[1]. Kohno M, et al. Atrial and brain natriuretic peptides inhibit the endothelin-1 secretory response to angiotensin II in porcine aorta. Circ Res. 1992 Feb;70(2):241-7.

[2]. Kohno M, et al. Inhibition by atrial and brain natriuretic peptides of endothelin-1 secretion after stimulation with angiotensin II and thrombin of cultured human endothelial cells. J Clin Invest. 1991 Jun;87(6):1999-2004.

[3]. Ballermann BJ, et al. Physiologic regulation of atrial natriuretic peptide receptors in rat renal glomeruli. J Clin Invest. 1985 Dec;76(6):2049-56.

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