

Carperitide

Cat. No.:	HY-P1235
CAS No.:	89213-87-6
Molecular Formula:	C ₁₂₇ H ₂₀₃ N ₄₅ O ₃₉ S ₃
Molecular Weight:	3080.44
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:	Please store the product under the recommended conditions in the Certificate of Analysis.

BIOLOGICAL ACTIVITY

Description	Carperitide (Atrial Natriuretic Peptide (ANP) (1-28), human, porcine) 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 (Atrial Natriuretic Peptide (ANP) (1-28), human, porcine) inhibits endothelin-1 secretion in a dose-dependent way.
IC₅₀ & Target	Endothelin-1 ^[1]
In Vitro	Carperitide (Atrial Natriuretic Peptide (ANP) (1-28), human, porcine) 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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Caution: Product has not been fully validated for medical applications. For research use only.

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