

## Carperitide

<b>Cat. No.:</b>	HY-P1235
<b>CAS No.:</b>	89213-87-6
<b>Molecular Formula:</b>	C <sub>127</sub> H <sub>203</sub> N <sub>45</sub> O <sub>39</sub> S <sub>3</sub>
<b>Molecular Weight:</b>	3080.44
<b>Sequence:</b>	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)
<b>Sequence Shortening:</b>	SLRRSSCFGGRMDRIGAQSGLGCNSFRY (Disulfide bridge: Cys7-Cys23)
<b>Target:</b>	Endothelin Receptor
<b>Pathway:</b>	GPCR/G Protein
<b>Storage:</b>	Please store the product under the recommended conditions in the Certificate of Analysis.

### BIOLOGICAL ACTIVITY

<b>Description</b>	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.
<b>IC<sub>50</sub> &amp; Target</b>	Endothelin-1 <sup>[1]</sup>
<b>In Vitro</b>	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 <sup>[1]</sup> . 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 <sup>[2]</sup> . In glomeruli from normal rats, Human <sup>125</sup> 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 <sup>[3]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

### 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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