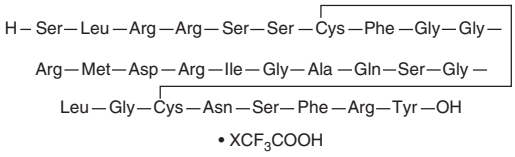
PRODUCT INFORMATION

Atrial Natriuretic Peptide (1-28) (human) (trifluoroacetate salt)

Item No. 24539

CAS Registry No.: 89213-87-6
Formal Name: L-seryl-L-leucyl-L-arginyl-L-arginyl-L-seryl-L-seryl-L-cysteinyl-L-phenylalanylglycylglycyl-L-arginyl-L-methionyl-L-α-aspartyl-L-arginyl-L-isoleucylglycyl-L-alanyl-L-glutaminyl-L-serylglycyl-L-leucylglycyl-L-cysteinyl-L-asparaginyl-L-seryl-L-phenylalanyl-L-arginyl-L-tyrosine, cyclic (7→23)-disulfide, trifluoroacetate salt
Synonyms: ANF, ANP, Atrial Natriuretic Factor, α-Atriopeptin (human)
MF: $C_{127}H_{203}N_{45}O_{39}S_3 \bullet XCF_3COOH$
FW: 3,080.5
Purity: ≥95%
Supplied as: A lyophilized powder
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Atrial natriuretic peptide (ANP) (1-28) (human) (trifluoroacetate salt) is supplied as a lyophilized powder. A stock solution may be made by dissolving the ANP (1-28) (human) (trifluoroacetate salt) in water. The solubility of ANP (1-28) (human) (trifluoroacetate salt) in water is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

ANP is an endogenous peptide generated by proteolysis of prepro-ANP that is secreted by cardiomyocytes in the heart.[1,2] It has effects on the renal and cardiovascular systems that decrease vasoconstriction, inhibit renin secretion, and increase sodium excretion. Human ANP binds to ANP receptors on cultured vascular smooth muscle cells (VSMCs) with a K_d value of approximately 1-2 nM and increases cGMP levels in a dose-dependent manner.[3] It relaxes potassium-induced contraction of isolated canine renal arterial strips when used at concentrations of 10 and 100 ng/ml and dilates renal arteries in anesthetized dogs when used at doses ranging from 10 to 100 ng/kg.[4] In a rat model of heart failure following experimental autoimmune myocarditis, human ANP, *via* osmotic mini pump for 28 days, decreases cardiomyocyte size as well as the amount of cardiac fibrosis and left ventricular remodeling.[5] ANP (1-28) (human) is a 28 amino acid peptide corresponding to the human protein sequence.

References

1. Flynn, T.G., de Bold, M.L., and de Bold, A.J. The amino acid sequence of an atrial peptide with potent diuretic and natriuretic properties. *Biochem. Biophys. Res. Commun.* **117(3)**, 859-865 (1983).
2. Maack, T. Role of atrial natriuretic factor in volume control. *Kidney Int.* **49(6)**, 1732-1737 (1996).
3. Hirata, Y., Tomita, M., Yoshimi, H., *et al.* Specific receptors for atrial natriuretic factor (ANF) in cultured vascular smooth muscle cells of rat aorta. *Biochem. Biophys. Res. Commun.* **125(2)**, 562-568 (1984).
4. Ishihara, T., Aisaka, K., Hattori, K., *et al.* Vasodilatory and diuretic actions of α-human atrial natriuretic polypeptide (α-hANP). *Life Sci.* **36(12)**, 1205-1215 (1985).
5. Tanaka, K., Ito, M., Kodama, M., *et al.* Long-term carperitide treatment attenuates left ventricular remodeling in rats with heart failure after autoimmune myocarditis. *J. Cardiovasc. Pharmacol.* **54(3)**, 232-239 (2009).

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