

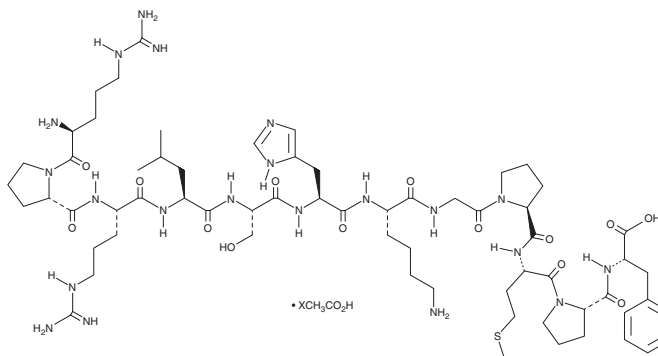
# PRODUCT INFORMATION



## Apelin-12 (human, mouse, rat, bovine) (acetate)

Item No. 36888

**Formal Name:** L-arginyl-L-prolyl-L-arginyl-L-leucyl-L-seryl-L-histidyl-L-lysylglycyl-L-prolyl-L-methionyl-L-prolyl-L-phenylalanine, acetate  
**Synonym:** RPRLSHKGPMPF  
**MF:** C<sub>64</sub>H<sub>103</sub>N<sub>21</sub>O<sub>14</sub>S • XC<sub>2</sub>H<sub>4</sub>O<sub>2</sub>  
**FW:** 1,422.7  
**Purity:** ≥95%  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥4 years



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

### Laboratory Procedures

Apelin-12 (human, mouse, rat, bovine) (acetate) is supplied as a solid. Aqueous solutions of apelin-12 (human, mouse, rat, bovine) (acetate) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of apelin-12 (human, mouse, rat, bovine) (acetate) in PBS (pH 7.2) is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Apelin-12 is a 12-amino acid peptide fragment corresponding to residues 66-77 of apelin and an endogenous agonist of the apelin receptor (APJ), with roles in viral immunity, digestion, cell cycle regulation, and vasodilation.<sup>1</sup> It induces calcium mobilization in APJ-Gα<sub>q16</sub> cells expressing human APJ (EC<sub>50</sub> = 0.18 nM). Apelin-12 inhibits HIV-1 and HIV-2 infection in NP-2/CD4/APJ cells (mean IC<sub>50</sub> = 63 μg/ml).<sup>2</sup> It inhibits or stimulates the expression of genes associated with apoptosis, mitosis, and DNA repair in IEC-6 and Caco-2 cells, respectively, when used at a concentration of 0.01 μM.<sup>3</sup> Apelin-12 (100-1,000 nM) induces the production of nitric oxide (NO) via PI3K and Akt signaling pathways in human umbilical vein endothelial cells (HUVECs).<sup>4</sup> *In vivo*, apelin-12 (20-100 μg/kg) increases gastric acid secretion, as well as stomach histamine synthesis and secretion, in rats.<sup>5</sup> It also reduces mean arterial pressure (MAP) in rats when administered at a dose of 15 μg/kg.<sup>6</sup>

### References

- Giddings, A., Runyon, S., Thomas, J., *et al.* Development of a functional HTS assay for the APJ receptor. *Int. J. High Throughput Screen.* **1**, 39-47 (2010).
- Zou, M.X., Liu, H.Y., Haraguchi, Y., *et al.* Apelin peptides block the entry of human immunodeficiency virus (HIV). *FEBS Lett.* **473(1)**, 15-18 (2000).
- Antushevich, H., Krawczynska, A., Kapica, M., *et al.* Effect of apelin on mitosis, apoptosis and DNA repair enzyme OGG 1/2 expression in intestinal cell lines IEC-6 and Caco-2. *Folia Histochem. Cytobiol.* **52(1)**, 51-59 (2014).
- Busch, R., Strohbach, A., Pennewitz, M., *et al.* Regulation of the endothelial apelin/APJ system by hemodynamic fluid flow. *Cell. Signal.* **27(7)**, 1286-1296 (2015).
- Ohno, S., Yakabi, K., Ro, S., *et al.* Apelin-12 stimulates acid secretion through an increase of histamine release in rat stomachs. *Regul. Pept.* **174(1-3)**, 71-79 (2012).
- Lee, D.K., Saldivia, V.R., Nguyen, T., *et al.* Modification of the terminal residue of apelin-13 antagonizes its hypotensive action. *Endocrinology* **146(1)**, 231-236 (2005).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

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