

# Recombinant Rat APEL Protein

**For Research Use Only**

## 1. Basic Product Information

Catalog No.: REP52601

Size: 10ug, 100ug

Protein Name: Apelin (APJ endogenous ligand) [Cleaved into: Apelin-36; Apelin-31; Apelin-28; Apelin-13]

Synonym: Apln, Apel

UniProt ID: Q9R0R3

UniProt Link: [www.uniprot.org/uniprotkb/Q9R0R3/entry](http://www.uniprot.org/uniprotkb/Q9R0R3/entry)

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 77 AA

Molecular Weight: 9 KD

Protein Tag: C-terminal His6

## 2. Amino Acid Sequence

MNLSFCVQALLLLWLSLTAVCGVPLMLPPDGKGLEEGNMRYLVKPRTSRTGPGAWQGGRRKFRRQ  
RPRLSHKGPMMPF

## 3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

## 4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

## 5. Product Description

This product is recombinant Apelin (APJ endogenous ligand) [Cleaved into: Apelin-36; Apelin-31; Apelin-28; Apelin-13] produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

**Protein Function:** Peptide hormone that functions as endogenous ligand for the G protein-coupled apelin receptor (APLNR/APJ), that plays a role in cardiovascular homeostasis (PubMed:11336787, PubMed:11359874, PubMed:26611206). Functions as a balanced agonist activating both G(i) protein pathway and beta-arrestin pathway of APLNR (By similarity). Downstream G proteins activation, apelin can inhibit cAMP production and activate key intracellular effectors such as ERKs (PubMed:26611206). On the other hand, APLNR activation induces beta-arrestin recruitment to the membrane leading to desensitization and internalization of the receptor (PubMed:11359874). Apelin blunts cardiac hypertrophic induction from APLNR on response to pathological stimuli, but also induces myocardial hypertrophy under normal conditions (By similarity). Apelin-36 dissociates more hardly than (pyroglu)apelin-13 from APLNR (PubMed:11336787). Involved in the regulation of cardiac precursor cell movements during gastrulation and heart morphogenesis (By similarity). Has an inhibitory effect on cytokine production in response to T-cell receptor/CD3 cross-linking; the oral intake of apelin in the colostrum and the milk might therefore modulate immune responses in neonates. Plays a role in early coronary blood vessels formation (By similarity). Mediates myocardial contractility in an ERK1/2-dependent manner (PubMed:11359874, PubMed:26611206). May also have a role in the central control of body fluid homeostasis by influencing vasopressin release and drinking behavior (PubMed:10617103).

**Subcellular Localization:** Secreted . Secreted, extracellular space . Note=Abundantly secreted in the colostrum (By similarity). Lower level in milk (PubMed:10525157). Decreases rapidly within several days after parturition in milk, but is still detectable even in commercial milk (By similarity).

## 6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.