

Specification

Primary Accession [P01160](#)

[7595132](http://www.uniprot.org/citations/7595132), PubMed:7720651, PubMed:8087923, PubMed:8653797). Acts by specifically binding and stimulating NPR1 to produce cGMP, which in turn activates effector proteins, such as PRKG1, that drive various biological responses (PubMed:1660465, PubMed:1672777, PubMed:21098034, PubMed:2162527, PubMed:22307324, PubMed:25401746, PubMed:2825692, PubMed:7720651, PubMed:8384600, PubMed:9893117). Regulates vasodilation, natriuresis, diuresis and aldosterone synthesis and is therefore essential for regulating blood pressure, controlling the extracellular fluid volume and maintaining the fluid-electrolyte balance (PubMed:2532366, PubMed:2825692, PubMed:7595132, PubMed:7720651, PubMed:8087923, PubMed:8653797). Also involved in inhibiting cardiac remodeling and cardiac hypertrophy by inducing cardiomyocyte apoptosis and attenuating the growth of cardiomyocytes and fibroblasts (PubMed:16875975). Plays a role in female pregnancy by promoting trophoblast invasion and spiral artery remodeling in uterus, and thus prevents pregnancy-induced hypertension (By similarity). In adipose tissue, acts in various cGMP- and PKG-dependent pathways to regulate lipid metabolism and energy homeostasis (PubMed:15741263, PubMed:18835931, PubMed:21672517, PubMed:22307324). This includes up-regulating lipid metabolism and mitochondrial oxygen utilization by activating the AMP-activated protein kinase (AMPK), and increasing energy expenditure by acting via MAPK11 to promote the UCP1-dependent thermogenesis of brown adipose tissue (PubMed:15741263, PubMed:18835931, PubMed:21672517, PubMed:22307324). Binds the clearance receptor NPR3 which removes the hormone from circulation (PubMed:1672777).

Cellular Location

[Long-acting natriuretic peptide]: Secreted. Note=Detected in blood. [Kaliuretic peptide]: Secreted. Note=Detected in blood [Atrial natriuretic peptide]: Secreted. Perikaryon. Cell projection. Note=Detected in blood (PubMed:15741263, PubMed:18835931, PubMed:2532366, PubMed:7955907, PubMed:7984506, PubMed:8351194, PubMed:8653797, PubMed:8779891). Detected in urine in one study (PubMed:8351194). However, in another study, was not detected in urine (PubMed:7984506). Detected in cytoplasmic bodies and neuronal processes of pyramidal neurons (layers II-VI) (PubMed:30534047) Increased secretion in response to the vasopressin AVP (By similarity) Likely to be secreted in response to an increase in atrial pressure or atrial stretch (PubMed:2532366). In kidney cells, secretion increases in response to activated guanylyl cyclases and increased intracellular cAMP levels (PubMed:9893117). Plasma levels increase 15 minutes after a high-salt meal, and decrease back to normal plasma levels 1 hr later (PubMed:8779891).

{ECO:0000250|UniProtKB:P01161, ECO:0000269|PubMed:15741263,
ECO:0000269|PubMed:18835931, ECO:0000269|PubMed:2532366,
ECO:0000269|PubMed:30534047, ECO:0000269|PubMed:7955907,
ECO:0000269|PubMed:7984506, ECO:0000269|PubMed:8351194, ECO:0000269|PubMed:8653797,
ECO:0000269|PubMed:8779891, ECO:0000269|PubMed:9893117}

Tissue Location

[Urodilatin]: Detected in the kidney distal tubular cells (at protein level) (PubMed:8384600, PubMed:9794555). Present in urine (at protein level) (PubMed:2972874, PubMed:8351194, PubMed:8779891, PubMed:9794555).

NPPA Antibody (N-term) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

NPPA Antibody (N-term) Blocking Peptide - Images

NPPA Antibody (N-term) Blocking Peptide - Background

NPPA belongs to the natriuretic peptide family. Natriuretic peptides are implicated in the control of extracellular fluid volume and electrolyte homeostasis. This protein is synthesized as a large precursor(containing a signal peptide), which is processed to release a peptide from the N-terminus with similarity to vasoactive peptide, cardiodilatin, and another peptide from the C-terminus with natriuretic-diuretic activity.

NPPA Antibody (N-term) Blocking Peptide - References

Watanabe,Y., et.al., Biochem. Mol. Med. 61 (1), 47-51 (1997)Suga,S., et.al., Endocrinology 130 (1), 229-239 (1992)