

NPPA Antibody
Purified Mouse Monoclonal Antibody (Mab)
Catalog # AM8592b

Specification

NPPA Antibody - Product Information

Application	WB,E
Primary Accession	P01160
Reactivity	Mouse
Predicted	Human, Rat
Host	Mouse
Clonality	monoclonal
Isotype	IgG1,k

NPPA Antibody - Additional Information

Gene ID 4878

Other Names

Natriuretic peptides A, CDD-ANF, Cardiodilatin, CDD, Cardiodilatin-related peptide, CDP, Prepronatriodilatin, Atrial natriuretic factor, ANF, Atrial natriuretic peptide, ANP, NPPA, ANP, PND

Target/Specificity

This NPPA antibody is generated from a mouse immunized with a recombinant protein of human NPPA.

Dilution

WB~~1:2000

E~~Use at an assay dependent concentration.

Format

Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.

Storage

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

NPPA Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

NPPA Antibody - Protein Information

Name NPPA

Synonyms ANP, PND

Function [Atrial natriuretic peptide]: Hormone that plays a key role in mediating cardio-renal

homeostasis, and is involved in vascular remodeling and regulating energy metabolism (PubMed:[15741263](#), PubMed:[16875975](#), PubMed:[18835931](#), PubMed:[21672517](#), PubMed:[22307324](#), PubMed:[2532366](#), PubMed:[2825692](#), PubMed:[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](#)).

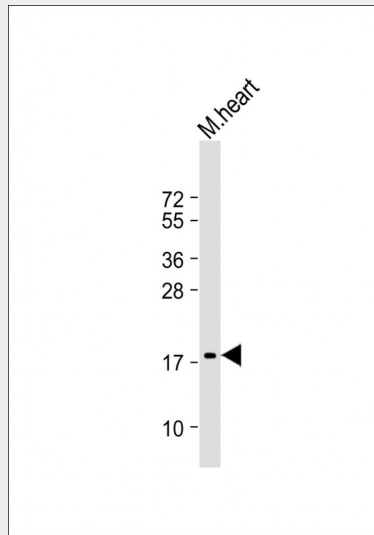
NPPA Antibody - Protocols

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)

- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

NPPA Antibody - Images



Anti-NPPA Antibody at 1:2000 dilution + mouse heart lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 17 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

NPPA Antibody - Background

Hormone playing a key role in cardiovascular homeostasis through regulation of natriuresis, diuresis, and vasodilation. Also plays a role in female pregnancy by promoting trophoblast invasion and spiral artery remodeling in uterus. Specifically binds and stimulates the cGMP production of the NPR1 receptor. Binds the clearance receptor NPR3.

NPPA Antibody - References

Oikawa S.,et al.Nature 309:724-726(1984).
Nakayama K.,et al.Nature 310:699-701(1984).
Nemer M.,et al.Nature 312:654-656(1984).
Greenberg B.D.,et al.Nature 312:656-658(1984).
Seidman C.E.,et al.Science 226:1206-1209(1984).