

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

**Specification**

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**NPPA Antibody - Product Information**

Application	WB,E
Primary Accession	<a href="#">P01160</a>
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

**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](#)).

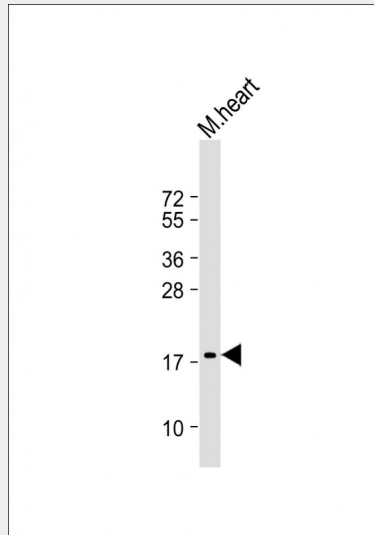
### NPPA Antibody - Protocols

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  $\mu$ g 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).