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# Anti-ANP Picoband Antibody

Catalog # ABO11986

## Product Information

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| **Application** | WB |
| **Primary Accession** | P01160 |
| **Host** | Rabbit |
| **Reactivity** | Human, Mouse, Rat |
| **Clonality** | Polyclonal |
| **Format** | Lyophilized |
| **Description** | Rabbit IgG polyclonal antibody for Natriuretic peptides A(NPPA) detection. Tested with WB in Human;Mouse;Rat. |
| **Reconstitution** | Add 0.2ml of distilled water will yield a concentration of 500ug/ml. |

## Additional Information

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| **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 |
| **Calculated MW** | 16396 |
| **Application Details** | Western blot, 0.1-0.5 □g/ml, Mouse, Rat, Human |
| **Subcellular Localization** | Secreted. |
| **Source** | Eukaryota |
| **Protein Name** | Natriuretic peptides A |
| **Contents** | Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3. |
| **Immunogen** | A synthetic peptide corresponding to a sequence at the C-terminus of human ANP(124-151aa SLRRSSCFGGRMDRIGAQSGLGCNSFRY), different from the related mouse and rat sequences by one amino acid. |
| **Purification** | Immunogen affinity purified. |
| **Cross Reactivity** | No cross reactivity with other proteins |
| **Storage** | At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing. |
| **Sequence Similarities** | Belongs to the natriuretic peptide family. |

## Protein Information

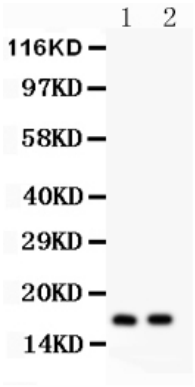
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|---|---|
| **Name** | NPPA |
| **Synonyms** | ANP, PND |
| **Function** | [Atrial natriuretic peptide]: Hormone that plays a key role in mediating cardio-renal homeostasis, and is involved in vascular remodeling and regulating energy metabolism (PubMed:15741263, 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: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).

## Background

Atrial natriuretic peptide (ANP), also known as NPPA or PND, is a powerful vasodilator, and a protein (polypeptide) hormone secreted by heart muscle cells. This gene is mapped to 1p36.22. It is involved in the homeostatic control of body water, sodium, potassium and fat (adipose tissue). ANP is released by muscle cells in the upper chambers (atria) of the heart (atrial myocytes) in response to high blood volume. It acts to reduce the water, sodium and adipose loads on the circulatory system, thereby reducing blood pressure. ANP has exactly the opposite function of the aldosterone secreted by the zona glomerulosa in regard to its effect on sodium in the kidney â€“ that is, aldosterone stimulates sodium retention and it generates sodium loss.

## Images




Anti- ANP Picoband antibody, ABO11986, Western blottingAll lanes: Anti ANP (ABO11986) at 0.5ug/mlLane 1: Rat Cardiac Muscle Tissue Lysate at 50ugLane 2: Mouse Cardiac Muscle Tissue Lysate at 50ugPredicted bind size: 17KDObserved bind size: 17KD

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