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Natriuretic peptides A (12Q17) Rabbit Monoclonal Antibody

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Catalog # AP93823

Product Information

Application	WB, IHC, IP
Primary Accession	P05125
Reactivity	Rat, Mouse
Clonality	Monoclonal
Calculated MW	16572

Additional Information

Gene ID	230899
Other Names	Natriuretic peptides A, Atrial natriuretic factor prohormone, Nppa, Pnd
Dilution	WB~~1:1000 IHC~~1:100~500 IP~~N/A
Storage Conditions	-20℃

Protein Information

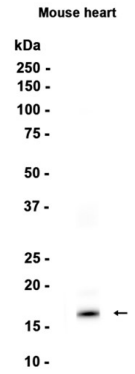
Name	Nppa
Synonyms	Pnd
Function	[Atrial natriuretic peptide]: Hormone that plays a key role in mediating cardio-renal homeostasis, and is involved in vascular remodeling and regulating energy metabolism (PubMed:12890708, PubMed:22437503, PubMed:8760210). Acts by specifically binding and stimulating NPR1 to produce cGMP, which in turn activates effector proteins, such as PRKG1, that drive various biological responses (PubMed:12890708). 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:22437503, PubMed:8760210). Also involved in inhibiting cardiac remodeling and cardiac hypertrophy by inducing cardiomyocyte apoptosis and attenuating the growth of cardiomyocytes and fibroblasts (By similarity). Plays a role in female pregnancy by promoting trophoblast invasion and spiral artery remodeling in uterus, and thus prevents pregnancy-induced hypertension (PubMed:22437503). In adipose tissue, acts in various cGMP- and PKG-dependent pathways to regulate lipid metabolism and energy homeostasis (By similarity). 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 (By similarity). Binds the clearance receptor NPR3 which removes the hormone from circulation (By similarity).
Cellular Location	[Long-acting natriuretic peptide]: Secreted {ECO:0000250|UniProtKB:P01160}. Note=Detected in blood {ECO:0000250|UniProtKB:P01160} [Kaliuretic peptide]: Secreted {ECO:0000250|UniProtKB:P01160}. Note=Detected in blood {ECO:0000250|UniProtKB:P01160} [Atrial natriuretic peptide]: Secreted {ECO:0000250|UniProtKB:P01160}. Perikaryon {ECO:0000250|UniProtKB:P01160}. Cell projection {ECO:0000250|UniProtKB:P01160}. Note=Detected in blood. Detected in urine in one study. However, in another study, was not detected in urine. Detected in cytoplasmic bodies and neuronal processes of pyramidal neurons (layers II-VI) (By similarity). 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. In kidney cells, secretion increases in response to activated guanylyl cyclases and increased intracellular cAMP levels. Plasma levels increase 15 minutes after a high-salt meal, and decrease back to normal plasma levels 1 hr later (By similarity) {ECO:0000250|UniProtKB:P01160, ECO:0000250|UniProtKB:P01161}

Background

This gene encodes members of the natriuretic family of peptides that play an important role in the control of extracellular fluid volume and electrolyte homeostasis. The encoded protein precursor undergoes proteolytic processing to generate multiple functional peptides. Mice lacking the encoded peptides exhibit salt-sensitive hypertension. The transgenic overexpression of the encoded peptides in mice decreases arterial blood pressure without inducing diuresis and natriuresis. This gene is located adjacent to another member of the natriuretic family of peptides on chromosome 4. [provided by RefSeq, Oct 2015]

Images



Western blot analysis of extracts from Mouse heart tissue using AP93823 at 1:1000.