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Atrial natriuretic factor Rabbit pAb

Catalog # AP100104

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	P01160
Other Accession	P01160
Reactivity	Rat, Human, Mouse
Predicted	Pig, Rabbit, Dog, Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	16396
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human ANP
Epitope Specificity	124-151/153
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the natriuretic peptide family.
SUBUNIT	Interacts with NPR1.
Post-translational modifications	Cleaved by CORIN upon secretion to produce the functional hormone.
DISEASE	Atrial fibrillation, familial, 6 (ATFB6) [MIM:612201]: A familial form of atrial fibrillation, a common sustained cardiac rhythm disturbance. Atrial fibrillation is characterized by disorganized atrial electrical activity and ineffective atrial contraction promoting blood stasis in the atria and reduces ventricular filling. It can result in palpitations, syncope, thromboembolic stroke, and congestive heart failure. Note=The disease is caused by mutations affecting the gene represented in this entry.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	The protein encoded by this gene 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. Mutations in this gene have been associated with atrial fibrillation familial type 6. [provided by RefSeq, Sep 2009]..

Additional Information

Gene ID	4878
Other Names	ANF; ANP; ATFB6; ATRST2; CDD; CDD-ANF; CDP; PND; ANF_HUMAN; NPPA; Atrial natriuretic factor prohormone (proANF); Atrial natriuretic peptide

	prohormone (preproANP | proANP); Atriopeptigen; Cardiodilatin (CDD); preproCDD-ANF; natriuretic peptide A; natriuretic peptide precursor A
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

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: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).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.