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NME4 Rabbit pAb

Catalog # AP98991

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	O00746
Other Accession	O00746
Reactivity	Mouse
Predicted	Rat, Pig, Human, Rabbit, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	20659
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human NME4/nm23-H4
Epitope Specificity	21-120/187
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 NDK family.
SUBUNIT	Homohexamer. Interacts with CAPN8
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	The nucleoside diphosphate (NDP) kinases (EC 2.7.4.6) are ubiquitous enzymes that catalyze transfer of gamma-phosphates, via a phosphohistidine intermediate, between nucleoside and dioxynucleoside tri- and diphosphates. The enzymes are products of the nm23 gene family, which includes NME4 (Milon et al., 1997 [PubMed 9099850]).[supplied by OMIM, May 2008]

Additional Information

Gene ID	4833
Other Names	NDK; NDPK-D; NDPKD; NM23H4; nm23-H4; NDKM_HUMAN; NME4; NDP kinase, mitochondrial; Nucleoside diphosphate kinase D (NDPKD); 2.7.4.6; NM23D; NME/NM23 nucleoside diphosphate kinase 4; non-metastatic cells 4, protein expressed in
Dilution	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	NME4 (HGNC:7852)
Synonyms	NM23D
Function	Mitochondria-specific nucleoside diphosphate kinase that catalyzes the transfer of a gamma-phosphoryl group from ATP to a nucleoside diphosphate via a ping-pong mechanism involving a phosphohistidine intermediate, participating in nucleoside triphosphate homeostasis (PubMed:10799505, PubMed:16313181, PubMed:18635542, PubMed:23150663). In vitro, purine nucleoside triphosphates are much more effective as donors and acceptors than pyrimidine nucleoside triphosphates, and ribonucleosides derivatives are superior to their deoxyribonucleosides counterparts (By similarity). Associates with cardiolipin-containing mitochondrial inner membrane and locally produces ADP in the mitochondrial intermembrane space, which is directly taken up via the ADP/ATP translocase (ANT) into the matrix to stimulate respiratory ATP regeneration (PubMed:18635542, PubMed:24970086). Also directly provides GTP for mitochondrial GTPases, such as the dynamin-related GTPase OPA1 (PubMed:24970086). Additionally, catalyzes the anionic phospholipid transfer, namely cardiolipin, from the mitochondrial inner membrane (IM) to the outer membrane (OM) through the formation of contact sites between IM and OM, in a nucleoside diphosphate kinase-independent manner (PubMed:17028143, PubMed:23150663). The switch between the nucleoside diphosphate kinase and the phospholipid transfer activity may depend on the availability and accessibility of cardiolipin and other anionic phospholipids in the IM outer leaflet and OM inner leaflet (PubMed:23150663).
Cellular Location	Mitochondrion intermembrane space; Peripheral membrane protein Mitochondrion matrix. Mitochondrion outer membrane Note=Predominantly localized in the mitochondrion intermembrane space (PubMed:18635542). Colocalizes with OPA1 in mitochondria (Probable) (PubMed:24970086). Phospholipid binding mediates mitochondrial inner membrane binding (Probable) (PubMed:18635542). Fully membrane-bound, when attached simultaneously to inner membrane (IM) and outer membrane (OM) through the formation of contact sites between IM and OM (Probable) (PubMed:17028143). The additional binding to OM may depend on the availability or accessibility of cardiolipin and/or other anionic phospholipids in the IM outer leaflet and the OM inner leaflet (Probable).
Tissue Location	Widely distributed. Found at very high levels in prostate, heart, liver, small intestine, and skeletal muscle tissues, and in low amounts in the brain and in blood leukocytes

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