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NME1 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP16000c

Product Information

Application	WB, E
Primary Accession	P15531
Other Accession	NP_937818.1, NP_000260.1
Reactivity	Human, Rat, Mouse
Predicted	Bovine, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	17149
Antigen Region	29-57

Additional Information

Gene ID	4830
Other Names	Nucleoside diphosphate kinase A, NDK A, NDP kinase A, Granzyme A-activated DNase, GAAD, Metastasis inhibition factor nm23, NM23-H1, Tumor metastatic process-associated protein, NME1, NDPKA, NM23
Target/Specificity	This NME1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 29-57 amino acids from the Central region of human NME1.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
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	NME1 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	NME1 (HGNC:7849)
Function	Catalyzes the transfer of a gamma-phosphoryl group from a nucleoside triphosphate, mainly ATP, to a nucleoside diphosphate via a ping-pong

	mechanism involving a phosphohistidine intermediate, therefore contributing to the nucleoside triphosphate homeostasis (PubMed:10952986, PubMed:14960567, PubMed:16313181, PubMed:1851158, PubMed:23519676, PubMed:33903070, PubMed:8810265, PubMed:9038158). Also phosphorylates geranyl pyrophosphate (GPP) and farnesyl pyrophosphate (FPP), linking it to isoprenoid metabolism (PubMed:10952986). Additionally, functions as a non-specific serine/threonine kinase and histidine protein kinase, transferring phosphoryl groups from its active site to target proteins (PubMed:8529641, PubMed:9038158). May function as a Mg(2+)-dependent single-stranded DNA endonuclease as part of the SET complex, cooperating with the 3'-5' exonuclease TREX1 to mediate apoptotic DNA fragmentation in cytotoxic T lymphocytes (PubMed:12628186, PubMed:16818237). Reported to nick one DNA strand, enabling TREX1 to remove nucleotides from the free 3' end, enhancing DNA damage and suppressing DNA end reannealing and repair (PubMed:16818237). Has been shown to cleave double strands DNA within the 3'-portions of both 5'-SHS silencer and NHE basal promoter element of the PDGFA gene, potentially repressing its transcription (PubMed:11694515). May also function as a Mg(2+)-dependent 3'-5' DNA exonuclease, excising nucleotides from 3' single-stranded DNA or DNA with 3' single strand overhangs, suggesting a role in DNA nucleolytic processing (PubMed:14960567, PubMed:16313181). Involved in the regulation of tumor metastasis and cellular differentiation (By similarity). Also required for cell motility (PubMed:8270257, PubMed:25582197). May control, with NME2, AcCoA usage between histone acetylation and fatty acid synthesis, possibly by binding and releasing AcCoA at transcriptionally active chromatin regions in proximity to histone acetyltransferase (HAT) (By similarity).
Cellular Location	Cytoplasm. Nucleus. Cell membrane {ECO:0000250|UniProtKB:P52175}. Note=Cell-cycle dependent nuclear localization which can be induced by degradation of the SET complex by GzmA (PubMed:12628186). In response to DNA damage, translocates to the nucleus where it might participate in DNA nucleolytic processing (PubMed:16313181).
Tissue Location	Ubiquitously expressed (PubMed:12601555, PubMed:16442775). Expressed in tumor cell lines (PubMed:10512675, PubMed:16442775).

Background

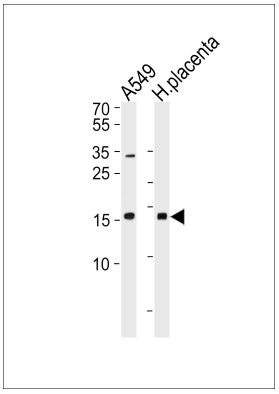
This gene (NME1) was identified because of its reduced mRNA transcript levels in highly metastatic cells. Nucleoside diphosphate kinase (NDK) exists as a hexamer composed of 'A' (encoded by this gene) and 'B' (encoded by NME2) isoforms. Mutations in this gene have been identified in aggressive neuroblastomas. Two transcript variants encoding different isoforms have been found for this gene. Co-transcription of this gene and the neighboring downstream gene (NME2) generates naturally-occurring transcripts (NME1-NME2), which encodes a fusion protein comprised of sequence sharing identity with each individual gene product.

References

Boissan, M., et al. Cancer Res. 70(19):7710-7722(2010)
Wang, P.H., et al. Gynecol. Oncol. 119(1):70-75(2010)
Conery, A.R., et al. Proc. Natl. Acad. Sci. U.S.A. 107(35):15461-15466(2010)
Wang, Z., et al. Med. Sci. Monit. 16 (8), CR357-CR364 (2010) :
Li, Y., et al. Cancer Res. 70(14):5695-5705(2010)

Images

NME1 Antibody (Center) (Cat. #AP16000c) western blot



analysis in A549 cell line and human placenta lysates (35ug/lane).This demonstrates the NME1 antibody detected the NME1 protein (arrow).

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