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NM23 (NME1) Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8080a

Product Information

Application	WB, IF, IHC-P, E
Primary Accession	P15531
Reactivity	Human
Predicted	Mouse, Rat, Bovine, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB03726
Calculated MW	17149
Antigen Region	25-54

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 NM23 (NME1) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 25-54 amino acids from the N-terminal region of human NM23 (NME1).
Dilution	WB~~1:1000 IF~~1:10~50 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
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	NM23 (NME1) Antibody (N-term) 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

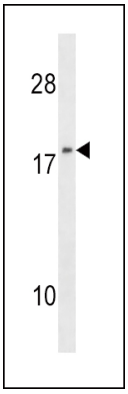
NME1 was identified because of its reduced mRNA transcript levels in highly metastatic cells. NME1 encodes the 'A' isoform of nucleoside diphosphate kinase (NDK). NDK exists as a hexamer composed of the 'A' (NME1) and 'B' (encoded by NME2) isoforms. Mutations in NME1 have been identified in aggressive neuroblastomas.

References

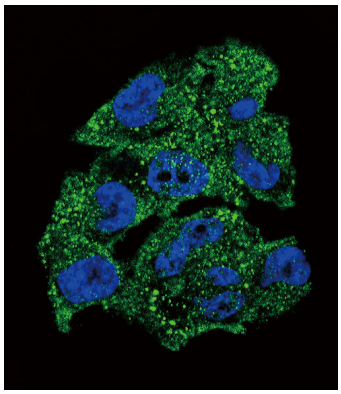
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Wang, P.H., et al., Gynecol. Obstet. Invest. 55(1):14-19 (2003).
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Images

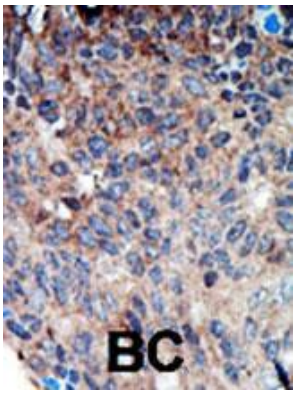
NME1 Antibody (F40) (Cat. #AP8080a) western blot analysis in 293 cell line lysates (35ug/lane).This



demonstrates the NME1 antibody detected the NME1 protein (arrow).



Confocal immunofluorescent analysis of NM23 (NME1) Antibody (N-term)(Cat#AP8080a) with A375 cell followed by Alexa Fluor 488-conjugated goat anti-rabbit lgG (green).DAPI was used to stain the cell nuclear (blue).



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

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