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NME1 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1404a

Product Information

Application	WB, IHC, FC, ICC, E
Primary Accession	P15531
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	4B2
Isotype	IgG1
Calculated MW	17149
Description	non-metastatic cells 1,protein,with a nm23 nucleoside diphosphate kinase gene family,involved in the phosphorylation of nucleoside diphosphates,with a reduced expression in tumor progression to the metastatic phenotype,mutated in agressive neuroblastoma,expressed in lung carcinoma cell lines not in normal lung,pyrimidine biosynthetic pathway. Involved in cell proliferation, differentiation and development, signal transduction, G protein-coupled receptor endocytosis, and gene expression. Required for neural development including neural patterning and cell fate determination. Has tumor metastasis-suppressive capacity.Tissue specificity: Isoform 1 is expressed in heart, brain, placenta, lung, liver, skeletal muscle, pancreas, spleen and thymus. Expressed in lung carcinoma cell lines but not in normal lung tissues. Isoform 2 is ubiquitously expressed and its expression is also related to tumor differentiation. Isoform 3 is ubiquitously expressed.
Immunogen	Purified recombinant fragment of human NME1 expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

Additional Information

Gene ID	4830
Other Names	Nucleoside diphosphate kinase A, NDK A, NDP kinase A, 2.7.4.6, Granzyme A-activated DNase, GAAD, Metastasis inhibition factor nm23, NM23-H1, Tumor metastatic process-associated protein, NME1, NDPKA, NM23
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 FC~~1/200 - 1/400 ICC~~N/A E~~N/A
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	NME1 Antibody is for research use only and not for use in diagnostic or

therapeutic procedures.

Protein Information

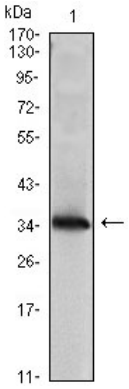
Name	NME1 (HGNC:7849)
Function	Catalyzes the transfer of a gamma-phosphoryl group from a nucleoside triphosphate, mainly ATP, to a nucleoside diphosphate via a ping-pong mechanism involving a phosphohistidine intermediate, therefore contributing to the nucleoside triphosphate homeostasis (PubMed:10952986, 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).

References

1. J Cell Biochem. 2009 Mar 1;106(4):666-72. 2. FEBS Lett. 2009 Sep 3;583(17):2789-92. 3. PLoS One. 2009 Nov 23;4(11):e7949.

Images

Figure 1: Western blot analysis using NME1 mAb against NME1(AA: 27-177)-hIgGFc transfected HEK293 cell lysate.



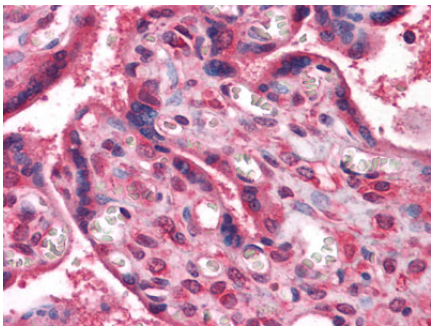


Figure 2: Immunohistochemical analysis of paraffin-embedded human Placenta tissues using anti-NME1 mouse mAb

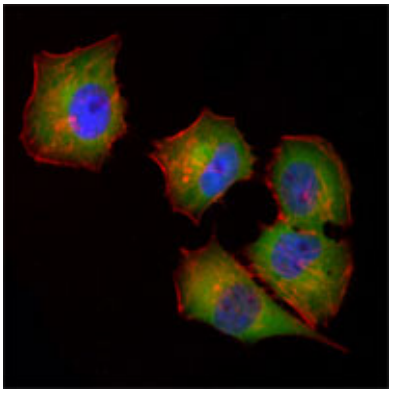


Figure 3: Immunofluorescence analysis of Hela cells using NME1 mouse mAb (green). Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin. Blue: DRAQ5 fluorescent DNA dye.

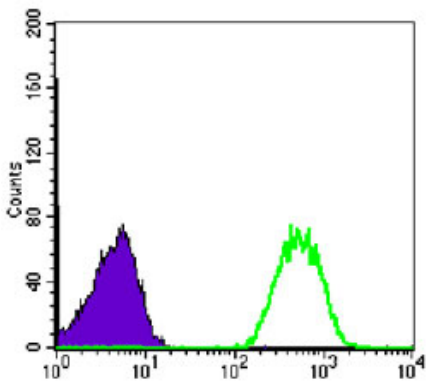


Figure 4: Flow cytometric analysis of Jurkat cells using NME1 mouse mAb (green) and negative control (purple).

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