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NME2 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8081a

Product Information

Application	IHC-P, IF, WB, E
Primary Accession	P22392
Other Accession	P19804, Q01768
Reactivity	Human, Rat, Mouse
Predicted	Rat, Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	17298
Antigen Region	25-54

Additional Information

Gene ID	4831
Other Names	Nucleoside diphosphate kinase B, NDK B, NDP kinase B, C-myc purine-binding transcription factor PUF, Histidine protein kinase NDKB, nm23-H2, NME2, NM23B
Target/Specificity	This NME2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 25-54 amino acids from the N-terminal region of human NME2.
Dilution	IHC-P~~1:100~500 IF~~1:10~50 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 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	NME2 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	NME2 (HGNC:7850)
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:11121025, PubMed:16313181, PubMed:1851158, PubMed:25679041). Also functions as a histidine protein kinase by transferring the phosphoryl group from the phosphohistidine intermediate to a histidine residue in target proteins (PubMed:17157250, PubMed:20946858). Phosphorylates the GNB1 subunit of heterotrimeric G proteins at 'His- 266', generating a high-energy phosphate group that promotes GTP formation and enables receptor-independent activation of heterotrimeric G proteins (By similarity). Also phosphorylates KCNN4 at 'His-358', leading to activation of its intermediate conductance calcium-activated potassium channel activity, Ca(2+) influx, and subsequent activation of B and T cells (PubMed:17157250). Additionally involved in transcriptional regulation through direct DNA binding and chromatin remodeling (PubMed:11121025, PubMed:11694515, PubMed:19033359, PubMed:19435876, PubMed:25679041, PubMed:8392752). In this context, functions as a single-stranded DNA binding protein that binds and stabilizes the G-quadruplex (G4) structures within the nuclease hypersensitive element (NHE) III(1) region of the MYC gene promoter, facilitating recruitment of additional single-strand DNA binding proteins and activation of MYC transcription (PubMed:19033359, PubMed:19435876, PubMed:25679041, PubMed:8392752). G4 DNA-binding activity is independent of its nucleoside diphosphate kinase function and recognizes both folded and unfolded G4 structures (PubMed:25679041). With NME1, may regulate acetyl-CoA (AcCoA) usage between histone acetylation and fatty acid synthesis by targeting AcCoA release at ATP-rich, HAT-associated chromatin regions (By similarity). Also negatively regulates Rho activity by interacting with AKAP13/LBC (PubMed:15249197).
Cellular Location	Cytoplasm. Nucleus. Cell projection, lamellipodium. Cell projection, ruffle. Note=Colocalizes with ITGB1 and ITGB1BP1 at the edge or peripheral ruffles and lamellipodia during the early stages of cell spreading on fibronectin or collagen but not on vitronectin or laminin substrates [Isoform 3]: Cytoplasm. Cytoplasm, perinuclear region. Nucleus
Tissue Location	[Isoform 1]: Ubiquitously expressed.

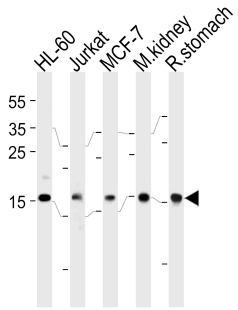
Background

NM2 is a heterodimeric protein functioning as a nucleoside diphosphate (NDP) kinase. NME1 and NME2 comprise the 152 amino acid A and B polypeptide chains of the NM23 enzyme, respectively. NME2 is identical to the beta subunit of human erythrocyte NDP kinase. NDP kinases are involved in the synthesis of nucleoside triphosphates, and NM23 may act in the regulation of signal transduction by complexing with G proteins, causing activation/inactivation of developmental pathways. NEM2 has been identified as a putative tumor suppressor. High expression of mouse NME2 is detected in heart, liver, and kidney, with moderate expression in skeletal muscle, and negligible expression in other mouse tissues examined.

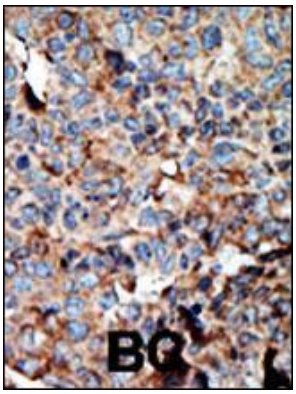
References

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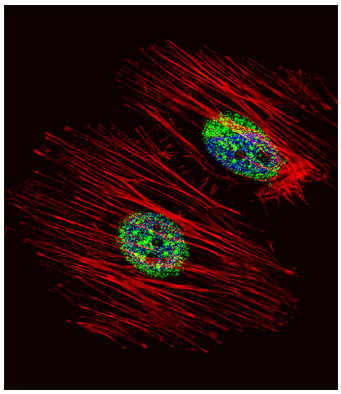
Images



NME2 Antibody (F40) (Cat. #AP8081a) western blot analysis in HL-60,Jurkat,MCF-7 cell line,mouse kidney and rat stomach tissue lysates (35ug/lane).This demonstrates the NME2 antibody detected the NME2 protein (arrow).



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



Fluorescent confocal image of Hela cell stained with NME2 Antibody (N-term)(Cat#AP8081a).Hela cells were fixed with 4% PFA (20 min), permeabilized with Triton X-100 (0.1%, 10 min), then incubated with NME2 primary antibody (1:25, 1 h at 37°C). For secondary antibody, Alexa Fluor® 488 conjugated donkey anti-rabbit antibody (green) was used (1:400, 50 min at 37°C).Cytoplasmic actin was counterstained with Alexa Fluor® 555 (red) conjugated Phalloidin (7units/ml, 1 h at 37°C). Nuclei were counterstained with DAPI (blue) (10 µg/ml, 10 min). NME2 immunoreactivity is localized to Cytoplasm and Nucleus significantly.

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