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NME2 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO2003a

Product Information

Application	WB, IHC, E
Primary Accession	P22392
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	4G7A8
Isotype	IgG1
Calculated MW	17298
Description	Nucleoside diphosphate kinase (NDK) exists as a hexamer composed of 'A' (encoded by NME1) and 'B' (encoded by this gene) isoforms. Multiple alternatively spliced transcript variants have been found for this gene. Read-through transcription from the neighboring upstream gene (NME1) generates naturally-occurring transcripts (NME1-NME2) that encode a fusion protein comprised of sequence sharing identity with each individual gene product.
Immunogen	Purified recombinant fragment of human NME2 (AA: FULL(1-152)) expressed in E. Coli.
Formulation	Purified antibody in PBS with 0.05% sodium azide.

Additional Information

Gene ID	4831
Other Names	Nucleoside diphosphate kinase B, NDK B, NDP kinase B, 2.7.4.6, C-myc purine-binding transcription factor PUF, Histidine protein kinase NDKB, 2.7.13.3, nm23-H2, NME2, NM23B
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 E~~1/10000
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	NME2 Antibody 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.

References

1. Carcinogenesis. 2011 Aug;32(8):1133-42. 2. Cancer Lett. 2009 Mar 18;275(2):221-6.

Images