10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Anti-NME2 Antibody

Catalog # ABO11138

Product Information

Application	WB, IHC-P, ICC
Primary Accession	P22392
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Nucleoside diphosphate kinase B(NME2) detection. Tested with WB, IHC-P, ICC in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

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
Calculated MW	17298
Application Details	Immunocytochemistry , 0.5-1 □g/ml, Human, - Immunohistochemistry(Paraffin-embedded Section), 0.5-1 □g/ml, Human, Mouse, Rat, By Heat Western blot, 0.1-0.5 □g/ml, Human, Rat, Mouse
Subcellular Localization	Cytoplasm. Nucleus. Cell projection, lamellipodium. Cell projection, ruffle. Isoform 2 is mainly cytoplasmic and isoform 1 and isoform 2 are excluded from the nucleolus. 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.
Tissue Specificity	Ubiquitously expressed. .
Source	Eukaryota
Protein Name	Nucleoside diphosphate kinase B(NDK B)
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human NME2(137-152aa EELVDYKSCAHDWVYE), different from the related mouse and

rat sequences by one amino acid.

Purification Immunogen affinity purified.

Cross Reactivity No cross reactivity with other proteins

Storage At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.

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

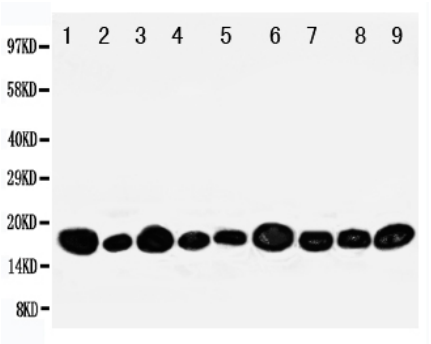
Tissue Location [Isoform 1]: Ubiquitously expressed.

Background

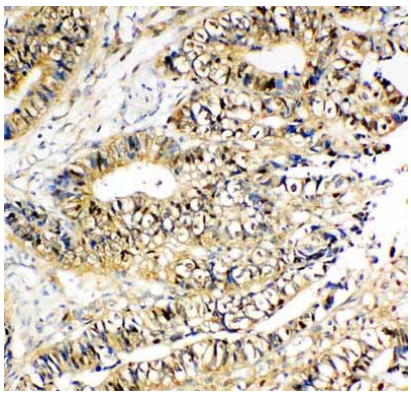
NME2(NME/NM23 nucleoside diphosphate kinase 2) also called non-metastatic cells 2, protein(NM23B) expressed in, NM23-H2, NM23B or NDPKB, is identical to the beta subunit of human erythrocyte NDP kinase. Little to no expression was detected in other mouse tissues examined. Using Northern blot analysis, Masse et al.(2002) detected high expression of mouse Nme2, which they called nm23-M2, in

heart, liver, and kidney, with intermediate expression in skeletal muscle. In situ hybridization of 15-day postcoitum mouse embryos showed ubiquitous Nme2 expression. The mouse and human NME2 genes contain 5 exons and span about 6.0 kb. The NME2 gene is mapped on 17q21.33. Srivastava et al.(2006) concluded that histidine phosphorylation regulates KCa3.1 channel activity and that NDPBK is critical to the channel activity and the activation of CD4 T cells.

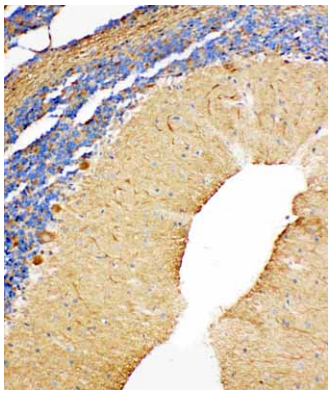
Images



Anti-NME2 antibody, ABO11138, Western blottingLane 1: Rat Heart Tissue LysateLane 2: Rat Brain Tissue LysateLane 3: Rat Liver Tissue LysateLane 4: Rat Skeletal Muscle Tissue LysateLane 5: PANC Cell LysateLane 6: HELA Cell LysateLane 7: SMMC Cell LysateLane 8: U87 Cell LysateLane 9: COLO320 Cell Lysate



Anti-NME2 antibody, ABO11138, IHC(P)IHC(P): Human Intestinal Cancer Tissue



Anti-NME2 antibody, ABO11138, IHC(P)IHC(P): Rat Cerebellum Tissue



Anti-NME2 antibody, ABO11138, ICCICC: HELA Cell

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