abcam

ab248409

Anti-NME2 antibody [EPR8351] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR8351
Purification technique	Affinity purification Protein A
Specificity	The immunogen used to raise this antibody shares 85% homology with human NME1. Cross-reactivity with this protein has not been confirmed experimentally.
Dissociation constant	3.35 x 10^{-10} M
Concentration	0.999 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat, Chinese hamster
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Chinese hamster
Dilution info	-
Notes	-

Expected

Species	Human, Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Human, Mouse, Rat, Chinese hamster
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human

Dilution info	-
Notes	-

Expected

Species	Chinese hamster, Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information NME2

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).

Storage

Shipped at conditions	Blue Ice

Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab248409 is the carrier-free version of ab131329.

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	NME2 also known as NM23-H2 is a nucleoside diphosphate kinase that is involved in the synthesis of nucleoside triphosphates. With a mass of approximately 17 kDa it plays a role in the energetic metabolism of cells. NME2 is widely expressed in various tissues including the liver heart and brain. Its expression levels indicate its importance in maintaining regular cellular functions.
Biological function summary	NME2 participates in the regulation of transcription and cellular differentiation. It acts within the context of protein complexes which influence DNA-binding

	activities required for transcriptional control. NME2 also has roles in the regulation of cell proliferation differentiation and signaling. These activities demonstrate the protein's significance in maintaining normal physiological processes.
Pathways	NME2 is active in the MAPK/ERK signaling pathway significant in cell growth and differentiation. It interacts with other proteins like ERK2 to modulate downstream signaling cascades. This protein also features in the GTP nucleotide biosynthesis pathway where it cooperates with other kinases for nucleotide metabolism highlighting its important role in cell cycle regulation.
Associated diseases and disorders	Mutations or altered expression of NME2 link with various cancers including breast and colon cancer. This connection emphasizes its potential role as a biomarker or therapeutic target. The protein also associates with other oncogenes like NME1 together contributing to the metastatic potential of cancer cells. NME2's involvement in chronic conditions like cancer confirms its importance in pathological states where it may influence disease progression or serve as a clinical marker.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

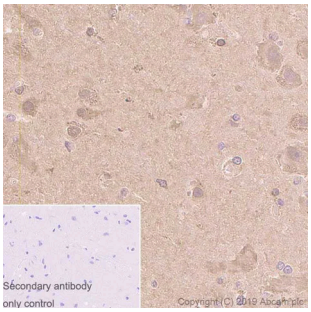
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

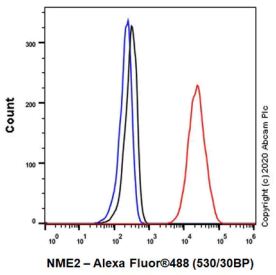
5 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NME2 antibody [EPR8351] - BSA and Azide free (ab248409)

NME2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-NME2 antibody

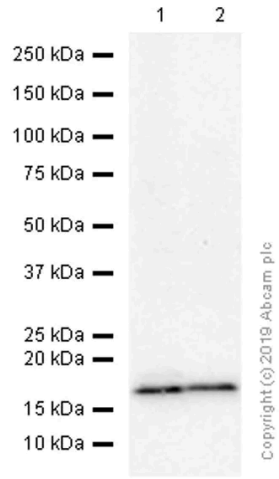
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human cerebrum tissue sections labeling NME2 with purified ab131329 at 1/500 dilution (0.22 µg/mL). Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0). Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab131329).



Flow Cytometry (Intracellular) - Anti-NME2 antibody [EPR8351] - BSA and Azide free (ab248409)

NME2 Flow Cytometry (Intracellular) staining using rabbit Anti-NME2 antibody

Intracellular Flow Cytometry analysis of HEK-293 (Human embryonickidney epithelial cell) cells labeling NME2 with purified ab131329 at 1/20 dilution (5 µg/mL) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab131329).



Western blot - Anti-NME2 antibody [EPR8351] - BSA and Azide free (ab248409)

NME2 Western blot staining using rabbit Anti-NME2 antibody

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab131329).
All lanes:
Western blot - Anti-NME2 antibody [EPR8351] (ab131329) at 1/1000 dilution

Lane 1:
293T (Human embryonic kidney epithelial cell) whole cell lysate at 20 µg

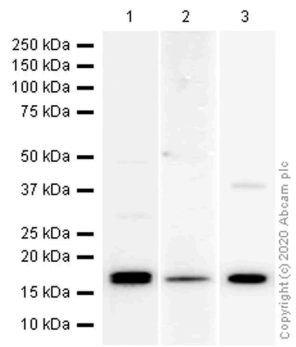
Lane 2:
PC-12 (Rat adrenal gland pheochromocytoma) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 17 kDa

Observed band size: 17 kDa



Western blot - Anti-NME2 antibody [EPR8351] - BSA and Azide free (ab248409)

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab131329).
All lanes:
Western blot - Anti-NME2 antibody [EPR8351] (ab131329) at 1/1000 dilution

Lane 1:
Mouse kidney lysate at 15 µg

Lane 2:
Rat kidney lysate at 15 µg

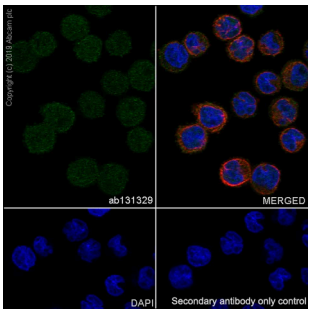
Lane 3:
CHO-S (Chinese hamster ovary epithelial cell) whole cell lysate at 15 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 17 kDa

Observed band size: 17 kDa



Immunocytochemistry/ Immunofluorescence - Anti-NME2 antibody [EPR8351] - BSA and Azide free (ab248409)

NME2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-NME2 antibody

Immunocytochemistry/ Immunofluorescence analysis of CHO-S (Chinese hamster ovary epithelial cell) cells labeling NME2 with purified ab131329 at 1/50 dilution (2.18 µg/mL). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% TritonX-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1/200 (2.5 µg/mL). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1/1000 (2 µg/ml) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab131329).

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