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Anti-MEK3/MAP2K3 Antibody Picoband®

Catalog Number: PB9763

About MAP2K3

Dual specificity mitogen-activated protein kinase kinase 3 is an enzyme that in humans is encoded by the MAP2K3 gene. The protein encoded by this gene is a dual specificity protein kinase that belongs to the MAP kinase kinase family. This kinase is activated by mitogenic and environmental stress, and participates in the MAP kinase-mediated signaling cascade. It phosphorylates and thus activates MAPK14/p38-MAPK. And this kinase can be activated by insulin, and is necessary for the expression of glucose transporter. Expression of RAS oncogene is found to result in the accumulation of the active form of this kinase, which thus leads to the constitutive activation of MAPK14, and confers oncogenic transformation of primary cells. Rampoldi et al. (1997) localized the MAP2K3 gene to 17q11.2.

Overview

Product Name	Anti-MEK3/MAP2K3 Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-MEK3/MAP2K3 Antibody Picoband® catalog # PB9763. Tested in Flow Cytometry, IF, IHC, ICC, WB applications. This antibody reacts with Human, Mouse, Rat. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	Flow Cytometry, IF, IHC, ICC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.
Storage Instructions	Store at -20˚C for one year from date of receipt. After reconstitution, at 4˚C for one month. It can also be aliquotted and stored frozen at -20˚C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	P46734

Technical Details

Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human MEK3, identical to the related mouse sequence.
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P) and ICC.
Cross Reactivity	No cross-reactivity with other proteins.
Isotype	Rabbit IgG

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Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.25-0.5ug/ml, Human, Mouse, Rat Immunohistochemistry (Paraffin-embedded Section), 2-5ug/ml, Human Immunocytochemistry/Immunofluorescence, 5 ug/ml, Human Flow Cytometry (Fixed), 1-3 ug/1x10^6 cells, Human

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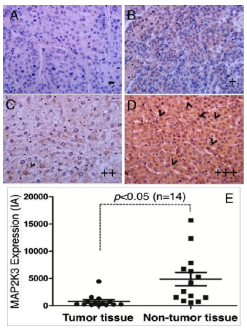
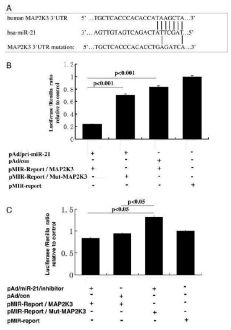
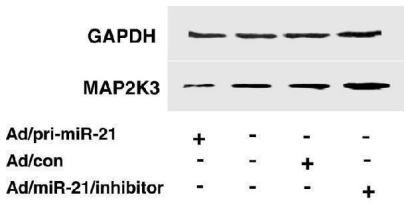
Anti-MEK3/MAP2K3 Antibody Picoband® (PB9763) Images



Immunohistochemistry (IHC) staining determined MAP2K3 expression in human HCC tumor and matched adjacent tissues. A-D : Representative images of MAP2K3 protein expression determined by IHC staining. A : An image represented a negative (-) expression of MAP2K3 expression; B : An image represented a low level (+) expression of MAP2K3, which showed a weak immunoreactive staining in cytoplasm; C : An image represented a negative (++) expression of MAP2K3 expression; D : An image represented a high level (+++) expression of MAP2K3, which exhibited a strong IHC staining in cytoplasm and perinuclear localization (arrowhead). E : Semi-quantitative analysis of MAP2K3 protein expression using integrated absorbance (IA) in human HCC tissues. Value was expressed as the average values from each individual sample of HCC tumor tissues or its matched adjacent tissue. The total average value of IA in the HCC tumor tissues was significantly greater as compared with the matched adjacent tissues (p



Validation of MAP2K3 mRNA as a target of miR-21. (A) : Sequence of potential binding site of miR-21 in the 3'UTR of MAP2K3 mRNA (top panel), mutations were introduced into the binding site for generation of mutated MAP2K3 3'TUR (bottom panel). (B and C): Validation of miR-21 target using MAP2K3 3'UTR luciferase reporter. Cells co-transfected with pMIR-Report/MAP2K3 3'UTR (WT) or pMIR-Report/Mut-MAP2K3 3'UTR (Mut) and pAd/pri-miR-21 (B) , pAd/miR-21/inhibitor (C) , and pAd/con plasmids showed a decreased luciferase activity in pAd/pri-miR-21 cells (B) . Luciferase activity after site directed mutagenesis of the 3'UTR of MAP2K3 mRNA in the miR-21 seed sequence (pMIR-Report/Mut-MAP2K3) was significantly higher with respect to the pMIR-Report/MAP2K3 vector transfected cells (B and C). Results represented the mean ± SD from three independent triplicated experiments (N=9). Index in PubMed under a CC BY license. PMID: 24112539



miR-21 targets MAP2K3 mRNA. The HepG2 cells were infected with Ad/pri-miR-21, Ad/miR-21/inhibitor or Ad/con adenoviral vector. The expression of MAP2K3 was detected by immunoblotting analysis against anti-MAP2K3 antibody. Compared with Ad/con group, *: p

Western blot analysis of MEK3 using anti-MEK3 antibody (PB9763). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: human Hela whole cell lysates, Lane 2: rat kidney tissue lysates, Lane 3: mouse NIH/3T3 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at

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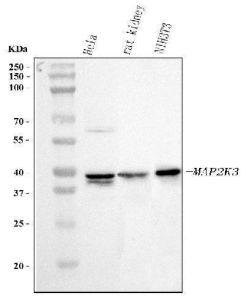
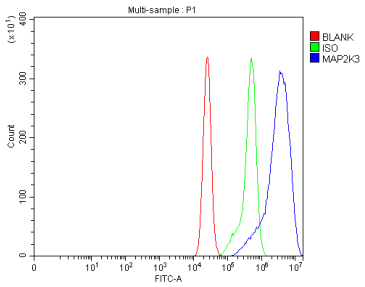
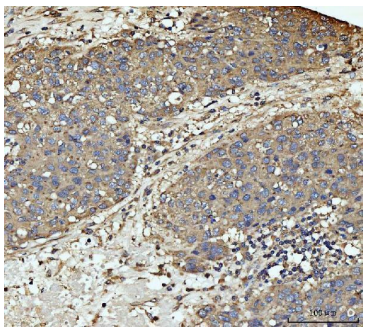


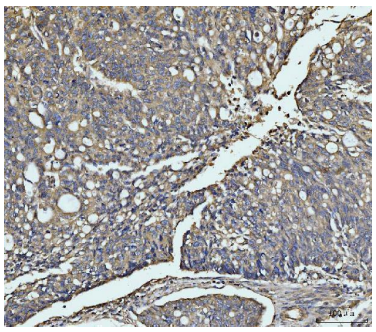
150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-MEK3 antigen affinity purified polyclonal antibody (Catalog # PB9763) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for MEK3 at approximately 40 kDa. The expected band size for MEK3 is at 40 kDa.



Flow Cytometry analysis of CACO-2 cells using anti-MEK3 antibody (PB9763). Overlay histogram showing CACO-2 cells stained with PB9763 (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-MEK3 Antibody (PB9763, 1 ug/1x106 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10 ug/1x106 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1 ug/1x106) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



IHC analysis of MEK3 using anti-MEK3 antibody (PB9763). MEK3 was detected in a paraffin-embedded section of human liver cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-MEK3 Antibody (PB9763) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.



IHC analysis of MEK3 using anti-MEK3 antibody (PB9763). MEK3 was detected in a paraffin-embedded section of human ovarian cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-MEK3 Antibody (PB9763) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

IF analysis of MEK3 using anti-MEK3 antibody (PB9763). MEK3 was detected in an immunocytochemical section of

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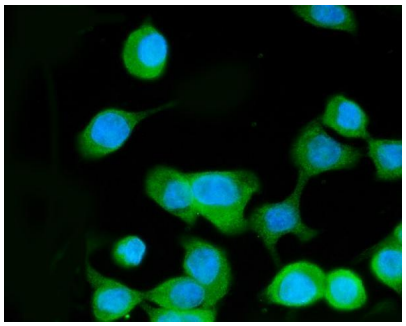

CACO-2 cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 4 ug/mL rabbit anti-MEK3 Antibody (PB9763) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Rabbit IgG (BA1127) was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

2 Publications Citing This Product

1. PubMed ID: 24112539, Xu G, Zhang Y, Wei J, Jia W, Ge Z, Zhang Z, Liu X. Bmc Cancer. 2013 Oct 10;13:469. Doi: 10.1186/1471-2407-13-469. Microrna-21 Promotes Hepatocellular Carcinoma Hepg2 Cell Proliferation Through Repression Of Mitogen-Activated Protein Kinase-Kinase 3.

2. PubMed ID: 29410394, Cheng H, Wang W, Wang G, Wang A, Du L, Lou W. Med Sci Monit. 2018 Feb 7;24:768-781. Silencing Ras-Related C3 Botulinum Toxin Substrate 1 Inhibits Growth and Migration of Hypopharyngeal Squamous Cell Carcinoma via the P38 Mitogen-Activated Protein ...

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Anti-MEK3/MAP2K3 Antibody

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