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Anti-MEK2/MAP2K2 Antibody Picoband™ (monoclonal, 2H4)

Catalog # ABO15040

Specification

Anti-MEK2/MAP2K2 Antibody Picoband™ (monoclonal, 2H4) - Product Information

Application	**WB, IHC, IF, ICC, FC**
Primary Accession	P36507
Host	**Mouse**
Isotype	**Mouse IgG1**
Reactivity	**Rat, Human, Mouse**
Clonality	**Monoclonal**
Format	**Lyophilized**

Description
Anti-MEK2/MAP2K2 Antibody Picoband™ (monoclonal, 2H4) . Tested in Flow Cytometry, IF, IHC, ICC, WB applications. This antibody reacts with Human, Mouse, Rat.

Reconstitution
Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-MEK2/MAP2K2 Antibody Picoband™ (monoclonal, 2H4) - Additional Information

Gene ID 5605

Other Names
Dual specificity mitogen-activated protein kinase kinase 2, MAP kinase kinase 2, MAPKK 2, 2.7.12.2, ERK activator kinase 2, MAPK/ERK kinase 2, MEK 2, MAP2K2, MEK2, MKK2, PRKMK2

Calculated MW
45 kDa KDa

Application Details
Western blot, 0.25-0.5 µg/ml, Human, Mouse, Rat
 Immunohistochemistry (Paraffin-embedded Section), 2-5 µg/ml, Human
 Immunocytochemistry/Immunofluorescence, 5 µg/ml, Human
 Flow Cytometry, 1-3 µg/1x10^6 cells, Human

Contents
Each vial contains 4mg Trehalose, 0.9mg NaCl and 0.2mg Na2HPO4.

Immunogen
E.coli-derived human MEK2/MAP2K2 recombinant protein (Position: M1-V400).

Purification
Immunogen affinity purified.

Storage	**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.**

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Anti-MEK2/MAP2K2 Antibody Picoband™ (monoclonal, 2H4) - Protein Information

Name MAP2K2

Synonyms MEK2, MKK2, PRKMK2

Function
Catalyzes the concomitant phosphorylation of a threonine and a tyrosine residue in a Thr-Glu-Tyr sequence located in MAP kinases. Activates the ERK1 and ERK2 MAP kinases (By similarity). Activates BRAF in a KSR1 or KSR2-dependent manner; by binding to KSR1 or KSR2 releases the inhibitory intramolecular interaction between KSR1 or KSR2 protein kinase and N-terminal domains which promotes KSR1 or KSR2-BRAF dimerization and BRAF activation (PubMed:29433126).

Cellular Location
Cytoplasm. Membrane; Peripheral membrane protein. Note=Membrane localization is probably regulated by its interaction with KSR1.

Anti-MEK2/MAP2K2 Antibody Picoband™ (monoclonal, 2H4) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-MEK2/MAP2K2 Antibody Picoband™ (monoclonal, 2H4) - Images

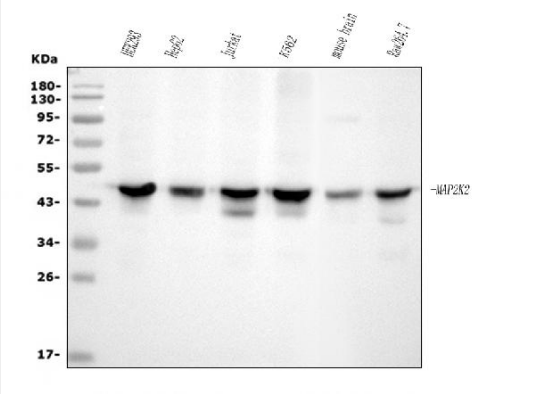

Figure 1. Western blot analysis of MEK2/MAP2K2 using anti-MEK2/MAP2K2 antibody (M00996-3). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30ug of sample under reducing conditions.
Lane 1: human HEK293 whole cell lysates,
Lane 2: human HepG2 whole cell lysates,

Lane 3: human Jurkat whole cell lysates,
Lane 4: human K562 whole cell lysates,
Lane 5: mouse brain tissue lysates,
Lane 6: mouse Raw264.7 whole cell lysates.
After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with mouse anti-MEK2/MAP2K2 antigen affinity purified monoclonal antibody (Catalog # M00996-3) at 0.5 µg/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system. A specific band was detected for MEK2/MAP2K2 at approximately 45KD. The expected band size for MEK2/MAP2K2 is at 45KD.

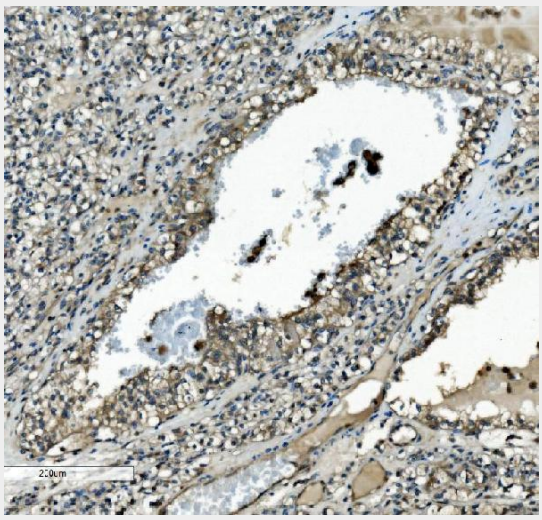

Figure 2. IHC analysis of MEK2/MAP2K2 using anti-MEK2/MAP2K2 antibody (M00996-3).
MEK2/MAP2K2 was detected in paraffin-embedded section of human renal clear cell carcinoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-MEK2/MAP2K2 Antibody (M00996-3) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

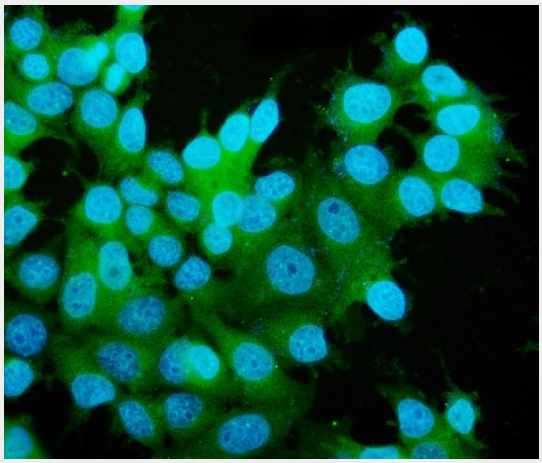

Figure 3. IF analysis of MEK2/MAP2K2 using anti-MEK2/MAP2K2 antibody (M00996-3).
MEK2/MAP2K2 was detected in immunocytochemical section of MCF-7 cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The

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cells were blocked with 10% goat serum. And then incubated with 5 µg/mL mouse anti-MEK2/MAP2K2 Antibody (M00996-3) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Mouse IgG (BA1126) 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.

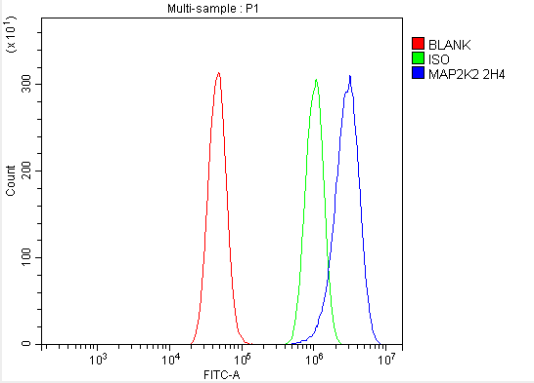

Figure 4. Flow Cytometry analysis of A431 cells using anti-MEK2/MAP2K2 antibody (M00996-3). Overlay histogram showing A431 cells stained with M00996-3 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-MEK2/MAP2K2 Antibody (M00996-3, 1 µg/1x10^6 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 µg/1x10^6 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 µg/1x10^6) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

Anti-MEK2/MAP2K2 Antibody Picoband™ (monoclonal, 2H4) - Background

Dual specificity mitogen-activated protein kinase kinase 2 (MAP2K2), also called PRKMK2 or MEK2, is an enzyme that in humans is encoded by the MAP2K2 gene. The protein encoded by this gene is a dual specificity protein kinase that belongs to the MAP kinase kinase family. MAP2K2 is mapped to 19p13.3. This kinase is known to play a critical role in mitogen growth factor signal transduction, and the inhibition or degradation of this kinase is found to be involved in the pathogenesis of Yersinia and anthrax. Recombinant MEK2 and MEK1 both could activate human ERK1 in vitro, and they further characterized biochemically the 2 MAP2Ks. MAP2K2 has been shown to interact with MAPK3 and ARAF.