Datasheet for ABIN967763

anti-MEK1 antibody

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Overview

Quantity:	150 µg
Target:	MEK1 (MAP2K1)
Reactivity:	Human, Mouse, Rat, Dog, Chicken, Frog
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This MEK1 antibody is un-conjugated
Application:	Western Blotting (WB), Immunohistochemistry (IHC), Immunoprecipitation (IP), BioImaging (BI)

Product Details

Immunogen:	Human MEK1 Recombinant Protein
Clone:	25-MEK1
Isotype:	IgG2a
Cross-Reactivity:	Chicken, Dog (Canine), Frog, Mouse (Murine), Rat (Rattus)
Characteristics:	1. Since applications vary, each investigator should titrate the reagent to obtain optimal results. 2. Please refer to us for technical protocols. 3. This antibody has been developed and certified for the bioimaging application. However, a routine bioimaging test is not performed on every lot. Researchers are encouraged to titrate the reagent for optimal performance. 4. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.

Product Details

	5. Source of all serum proteins is from USDA inspected abattoirs located in the United States. 6. Triton is a trademark of the Dow Chemical Company.
Purification:	The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

Target Details

Target:	MEK1 (MAP2K1)
Alternative Name:	MEK1 (MAP2K1 Products)
Background:	MEK1 (MapK/ERK Kinase 1) is a 45-kDa member of the MEK family of dual specificity kinases. MEK is activated by a variety of cellular serine/threonine kinases including c-Raf, A-Raf, c-mos, and MEK Kinase-1. Activated MEK phosphorylates MAP kinase (ERK) at threonine and tyrosine residues. This results in activation of ERK and its signaling pathway. MEK is highly specific for ERK and various MEKs preferentially phosphorylate individual ERK isoforms. MEK1 only activates ERK1 and ERK2. This specificity may result from variations in ERK regions that are known as the phosphorylation lip and kinase backbone. MEK's localization is cytoplasmic, but mitogenic stimulation induces a mass translocation to the nucleus. Mechanisms behind this nuclear translocation remain unknown. However, MEK contains an N-terminal nuclear export signal (NES) that mediates its rapid exodus from the nucleus and restores its unstimulated cellular distribution. The 25/MEK1 monoclonal antibody recognizes MEK1, regardless of phosphorylation status.
Molecular Weight:	45 kDa
Pathways:	MAPK Signaling, RTK Signaling, Interferon-gamma Pathway, Fc-epsilon Receptor Signaling Pathway, Neurotrophin Signaling Pathway, Activation of Innate immune Response, Toll-Like Receptors Cascades, Autophagy, Signaling of Hepatocyte Growth Factor Receptor, BCR Signaling

Application Details

Application Notes:	Bioimaging 1. Seed the cells in appropriate culture medium at ~10,000 cells per well in an 96-well Imaging Plate and culture overnight. 2. Remove the culture medium from the wells, and fix the cells by adding 100 myl of Fixation Buffer to each well. Incubate for 10 minutes at room temperature (RT). 3. Remove the fixative from the wells, and permeabilize the cells using either 90% methanol, or

Application Details

	Triton™ X-100: a. Add 100 myl of -20°C 90% methanol to each well and incubate for 5 minutes at RT. OR b. Add 100 myl of 0.1% Triton™ X-100 to each well and incubate for 5 minutes at RT. 4. Remove the permeabilization buffer, and wash the wells twice with 100 myl of 1× PBS. 5. Remove the PBS, and block the cells by adding 100 myl of to each well. Incubate for 30 minutes at RT. 6. Remove the blocking buffer and add 50 myl of the optimally titrated primary antibody (diluted in Stain Buffer) to each well, and incubate for 1 hour at RT. 7. Remove the primary antibody, and wash the wells three times with 100 myl of 1× PBS. 8. Remove the PBS, and add the second step reagent at its optimally titrated concentration in 50 myl to each well, and incubate in the dark for 1 hour at RT. 9. Remove the second step reagent, and wash the wells three times with 100 myl of 1× PBS. 10. Remove the PBS, and counter-stain the nuclei by adding 200 myl per well of 2 myg/ml Hoechst 33342 in 1× PBS to each well at least 15 minutes before imaging. 11. View and analyze the cells on an appropriate imaging instrument.
Comment:	Related Products: ABIN968533, ABIN967389
Restrictions:	For Research Use only

Handling

Format:	Liquid
Concentration:	250 µg/mL
Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09 % sodium azide.
Preservative:	Sodium azide
Precaution of Use:	This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Storage:	-20 °C
Storage Comment:	Store undiluted at -20°C.

Publications

Product cited in:	Freeman, Brebner, Lynch, Patel, Robertson, Roberts, Vrana: "Changes in rat frontal cortex gene expression following chronic cocaine." in: **Brain research. Molecular brain research**, Vol. 104, Issue 1, pp. 11-20, (2002) (PubMed).

Publications

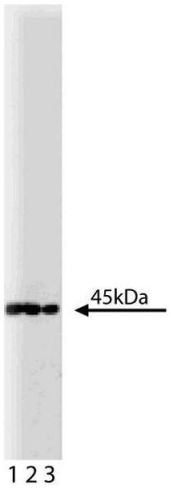
Gu, Fujibayashi, Yamada, Sekiguchi: "Laminin-10/11 and fibronectin differentially prevent apoptosis induced by serum removal via phosphatidylinositol 3-kinase/Akt- and MEK1/ERK-dependent pathways." in: **The Journal of biological chemistry**, Vol. 277, Issue 22, pp. 19922-8, (2002) (PubMed).

Aplin, Stewart, Assoian, Juliano: "Integrin-mediated adhesion regulates ERK nuclear translocation and phosphorylation of Elk-1." in: **The Journal of cell biology**, Vol. 153, Issue 2, pp. 273-82, (2001) (PubMed).

Short, Boyer, Juliano: "Integrins regulate the linkage between upstream and downstream events in G protein-coupled receptor signaling to mitogen-activated protein kinase." in: **The Journal of biological chemistry**, Vol. 275, Issue 17, pp. 12970-7, (2000) (PubMed).

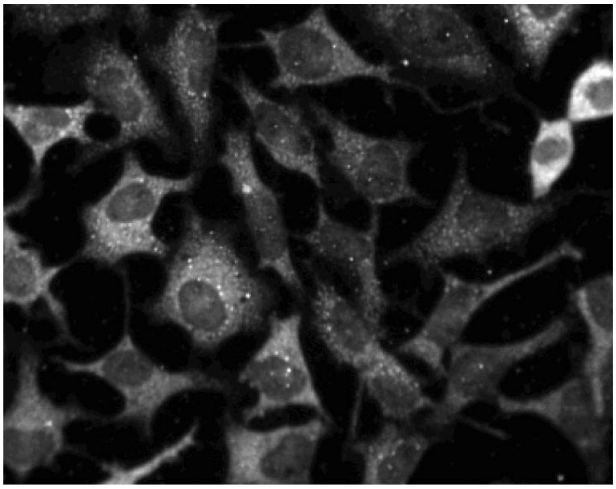
Robinson, Cheng, Khokhlatchev, Ebert, Ahn, Guan, Stein, Goldsmith, Cobb: "Contributions of the mitogen-activated protein (MAP) kinase backbone and phosphorylation loop to MEK specificity. " in: **The Journal of biological chemistry**, Vol. 271, Issue 47, pp. 29734-9, (1997) (PubMed).

Images



Western Blotting

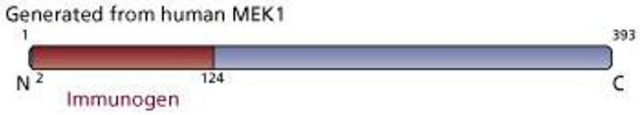
Image 1. Western blot analysis of MEK1 on a A431 lysate (ABIN968533). Lane 1: 1:1000, lane 2: 1:2000, lane 3: 1:4000 dilution of the anti-MEK1 antibody.



Immunofluorescence

Image 2. Immunofluorescent staining of HeLa cells (ATCC CCL-2). Cells were seeded in a 96 well imaging plate at ~10,000 cells per well. After overnight incubation, cells were stained using the alcohol perm protocol and the anti-MEK1 antibody. The second step reagent was FITC goat anti mouse Ig. The image was taken on a BD Pathway™ 855 Bioimager using a 20x objective. This antibody also stained A549 (ATCC CCL-185) and U2OS (ATCC HTB-96) cells and can be used with either perm protocol.

Image 3.



Please check the product details page for more images. Overall 4 images are available for ABIN967763.