abcam

Product datasheet

Anti-MEK1 + MEK2 antibody [3D9] ab69502

2 Images

Overview

Product name	Anti-MEK1 + MEK2 antibody [3D9]
Description	Mouse monoclonal [3D9] to MEK1 + MEK2
Host species	Mouse
Specificity	Recognizes human MEK1 and MEK2.
Tested applications	**Suitable for:** WB, ELISA, IHC-P
Species reactivity	**Reacts with:** Human
Immunogen	Native MEK and recombinant MEK1
Positive control	Brain. Jurkat cells.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.
Storage buffer	Preservative: 0.1% Sodium azide Constituent: PBS
Purity	Protein G purified
Clonality	Monoclonal
Clone number	3D9
Isotype	IgG1

Applications

Our Abpromise guarantee covers the use of **ab69502** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		
ELISA		

Application	Abreviews	Notes
IHC-P		

Application notes

ELISA: Use at an assay dependent dilution.
IHC-P: Use at a concentration of 1 µg/ml. Perform heat mediated antigen retrieval by boiling tissue sections in 10 mM citrate, pH 6.0 for 10 min followed by cooling at RT for 20 minbefore commencing with IHC staining protocol.
WB: Use at a concentration of 0.5 µg/ml. Detects a band of approximately 43 kDa (predicted molecular weight: 43 kDa).

Not yet tested in other applications.
Optimal dilutions/concentrations should be determined by the end user.

Target

Function

Dual specificity protein kinase which acts as an essential component of the MAP kinase signal transduction pathway. Binding of extracellular ligands such as growth factors, cytokines and hormones to their cell-surface receptors activates RAS and this initiates RAF1 activation. RAF1 then further activates the dual-specificity protein kinases MAP2K1/MEK1 and MAP2K2/MEK2. Both MAP2K1/MEK1 and MAP2K2/MEK2 function specifically in the MAPK/ERK cascade, and catalyze the concomitant phosphorylation of a threonine and a tyrosine residue in a Thr-Glu-Tyr sequence located in the extracellular signal-regulated kinases MAPK3/ERK1 and MAPK1/ERK2, leading to their activation and further transduction of the signal within the MAPK/ERK cascade. Depending on the cellular context, this pathway mediates diverse biological functions such as cell growth, adhesion, survival and differentiation, predominantly through the regulation of transcription, metabolism and cytoskeletal rearrangements. One target of the MAPK/ERK cascade is peroxisome proliferator-activated receptor gamma (PPARG), a nuclear receptor that promotes differentiation and apoptosis. MAP2K1/MEK1 has been shown to export PPARG from the nucleus. The MAPK/ERK cascade is also involved in the regulation of endosomal dynamics, including lysosome processing and endosome cycling through the perinuclear recycling compartment (PNRC), as well as in the fragmentation of the Golgi apparatus during mitosis.

Tissue specificity

Widely expressed, with extremely low levels in brain.

Involvement in disease

Cardiofaciocutaneous syndrome 3

Sequence similarities

Belongs to the protein kinase superfamily. STE Ser/Thr protein kinase family. MAP kinase kinase subfamily.
Contains 1 protein kinase domain.

Domain

The proline-rich region localized between residues 270 and 307 is important for binding to RAF1 and activation of MAP2K1/MEK1.

Post-translational modifications

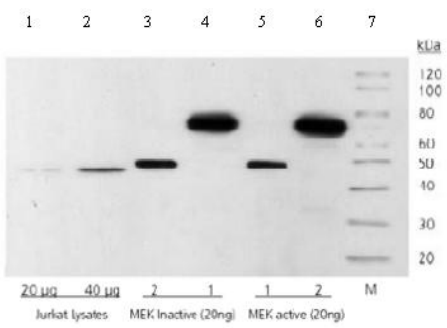
Phosphorylation at Ser-218 and Ser-222 by MAP kinase kinase kinases (RAF or MEKK1) positively regulates kinase activity. Also phosphorylated at Thr-292 by MAPK1/ERK2 and at Ser-298 by PAK. MAPK1/ERK2 phosphorylation of Thr-292 occurs in response to cellular adhesion and leads to inhibition of Ser-298 phosphorylation by PAK.
Acetylation by Yersinia yopJ prevents phosphorylation and activation, thus blocking the MAPK signaling pathway.

Cellular localization

Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Cytoplasm, cytoskeleton, microtubule organizing center, spindle pole body. Cytoplasm. Nucleus. Localizes at centrosomes

during prometaphase, midzone during anaphase and midbody during telophase/cytokinesis.

Images



Western blot - Anti-MEK1 + MEK2 antibody [3D9] (ab69502)

All lanes : Anti-MEK1 + MEK2 antibody [3D9] (ab69502) at 0.5 µg/ml

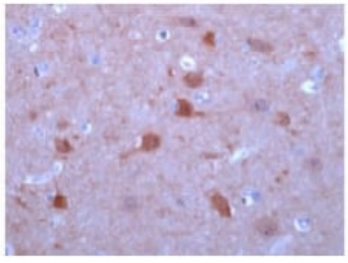
Lane 1 : Jurkat whole cell lysates at 20 µg
Lane 2 : Jurkat whole cell lysates at 40 µg
Lane 3 : recombinant MEK2 inactive at 0.02 µg
Lane 4 : recombinant MEK1 inactive at 0.02 µg
Lane 5 : recombinant MEK1 active at 0.02 µg
Lane 6 : recombinant MEK2 active at 0.02 µg
Lane 7 : MW ladder

Secondary
All lanes : HRP-conjugated goat anti-mouse secondary antibody

Developed using the ECL technique.

Predicted band size: 43 kDa
Observed band size: 43 or 71 kDa
why is the actual band size different from the predicted?

Recombinant MEK1 (active and inactive) has a GST Tag resulting in a MW of ~71 kDa. The incubation with the primary antibody was carried o/n at 4°C.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MEK1 + MEK2 antibody [3D9] (ab69502)

Formalin-fixed, paraffin-embedded brain tissue stained with 1 µg/mL anti-MEK ab69502.

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit https://www.abcam.com/abpromise or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors