abcam

ab278740

PE Anti-MKK7 (phospho S271 + T275) antibody [MKK7S271T275-R4F9]

Recombinant

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	PE
Excitation/Emission	Ex: 480;565nm, Em: 578nm
Storage buffer	Preservative: 0.09% Sodium azide Constituents: PBS, 0.2% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Synthetic Peptide within Human MAP2K7 pS271 + T275. The exact immunogen used to generate this antibody is proprietary information. Database link O14733
Clone number	MKK7S271T275-R4F9
Purification technique	Affinity purification Protein A/G
Light chain type	kappa

Reactivity data

Flow Cyt

Tested

Species	Human

Dilution info	5 µL for 10^6 Cells
Notes	-

Target data

See full target information MAP2K7 pS271 + T275

Function	Dual specificity protein kinase which acts as an essential component of the MAP kinase signal transduction pathway. Essential component of the stress-activated protein kinase/c-Jun N-terminal kinase (SAP/JNK) signaling pathway. With MAP2K4/MKK4, is the one of the only known kinase to directly activate the stress-activated protein kinase/c-Jun N-terminal kinases MAPK8/JNK1, MAPK9/JNK2 and MAPK10/JNK3. MAP2K4/MKK4 and MAP2K7/MKK7 both activate the JNKs by phosphorylation, but they differ in their preference for the phosphorylation site in the Thr-Pro-Tyr motif. MAP2K4/MKK4 shows preference for phosphorylation of the Tyr residue and MAP2K7/MKK7 for the Thr residue. The monophosphorylation of JNKs on the Thr residue is sufficient to increase JNK activity indicating that MAP2K7/MKK7 is important to trigger JNK activity, while the additional phosphorylation of the Tyr residue by MAP2K4/MKK4 ensures optimal JNK activation. Has a specific role in JNK signal transduction pathway activated by pro-inflammatory cytokines. The MKK/JNK signaling pathway is also involved in mitochondrial death signaling pathway, including the release cytochrome c, leading to apoptosis. Part of a non-canonical MAPK signaling pathway, composed of the upstream MAP3K12 kinase and downstream MAP kinases MAPK1/ERK2 and MAPK3/ERK1, that enhances the AP-1-mediated transcription of APP in response to APOE (PubMed:28111074).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Store in the dark

Notes

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.

Supplementary info

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

Activity summary	MKK7 also known as MAP2K7 or Mitogen-activated protein kinase kinase 7 is a dual-specificity kinase involved in the phosphorylation of target proteins. It functions as a critical member of the MAP2K family with a molecular mass of approximately 44 kDa. MKK7 is widely expressed in various tissues including the brain and immune cells which indicates its diverse functional roles across different biological systems.
Biological function summary	MKK7 plays an essential role in the activation of the JNK (c-Jun N-terminal kinases) signaling pathway by phosphorylating and activating JNK. It operates as part of a signaling complex that responds to stress stimuli. This kinase is involved in numerous cellular processes such as apoptosis differentiation and inflammatory responses. The regulation of these processes by MKK7 impacts many aspects of cellular homeostasis and response to environmental changes.
Pathways	MKK7 is integrally involved in the stress-activated MAPK pathway and the cellular response to inflammatory cytokines. It closely collaborates with related proteins such as JNK1 JNK2 and JNK3 to mediate its downstream effects. Activation of this pathway leads to the modulation of gene expression that governs cell survival proliferation and other critical cellular functions.
Associated diseases and disorders	Dysregulation of MKK7 activity connects the protein to disorders like cancer and neurodegenerative diseases. Altered MKK7-JNK signaling contributes to the pathogenesis of certain cancers by affecting cell proliferation and survival mechanisms. In neurodegenerative diseases MKK7-mediated pathways are associated with neuronal stress responses and cell death highlighting its interaction with proteins like Amyloid-beta in Alzheimer's disease. Understanding MKK7's role in these conditions offers potential for therapeutic interventions.

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.

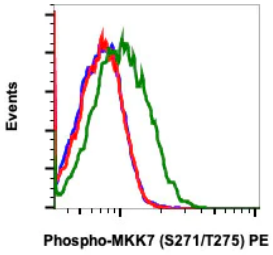
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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

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1 product image



Flow Cytometry - PE Anti-MKK7 (phospho S271 + T275) antibody [MKK7S271T275-R4F9] (ab278740)

MKK7 (phospho S271 + T275) Flow Cytometry staining using rabbit Anti-MKK7 (phospho S271 + T275) antibody

Flow Cytometry analysis of 293T cells unstained treated with imatinib as negative control (blue) or treated with imatinib (red) or treated with UV plus TPA and stained using ab278740.

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