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Phospho-JKK1/SEK1/MKK4 Antibody
Rabbit Polyclonal Antibody
Catalog # ABV10348

Specification

Phospho-JKK1/SEK1/MKK4 Antibody - Product Information

Application	**WB**
Primary Accession	P45985
Reactivity	**Human, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**44288**

Phospho-JKK1/SEK1/MKK4 Antibody - Additional Information

Gene ID 6416

Application & Usage	**Western blotting (1-4 µg/ml). However, the optimal concentrations should be determined individually. The antibody recognizes phosphorylated SEK1/MKK4/JKK1 of human, mouse, and rat origins.**

Other Names
MAP2K4, SERK1, MAPKKA, JNKK1, PRKMK4, MEK4

Target/Specificity
Phospho-SEK1/MKK4

Antibody Form
Liquid

Appearance
Colorless liquid

Formulation
100 µg (0.5 mg/ml) peptide affinity purified rabbit polyclonal antibody in phosphate-buffered saline (PBS) containing 50% glycerol, 1% BSA, and 0.02% thimerosal.

Handling
The antibody solution should be gently mixed before use.

Reconstitution & Storage
-20 °C

Background Descriptions

Precautions

Phospho-JKK1/SEK1/MKK4 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Phospho-JKK1/SEK1/MKK4 Antibody - Protein Information

Name MAP2K4

Synonyms JNKK1, MEK4, MKK4, PRKMK4, SEK1, SERK1,

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 MAP2K7/MKK7, 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 shows preference for phosphorylation of the Tyr residue and MAP2K7/MKK7 for the Thr residue. The phosphorylation of the Thr residue by MAP2K7/MKK7 seems to be the prerequisite for JNK activation at least in response to pro-inflammatory cytokines, while other stimuli activate both MAP2K4/MKK4 and MAP2K7/MKK7 which synergistically phosphorylate JNKs. MAP2K4 is required for maintaining peripheral lymphoid homeostasis. The MKK/JNK signaling pathway is also involved in mitochondrial death signaling pathway, including the release cytochrome c, leading to apoptosis. Whereas MAP2K7/MKK7 exclusively activates JNKs, MAP2K4/MKK4 additionally activates the p38 MAPKs MAPK11, MAPK12, MAPK13 and MAPK14.

Cellular Location
Cytoplasm. Nucleus.

Tissue Location
Abundant expression is seen in the skeletal muscle. It is also widely expressed in other tissues

Phospho-JKK1/SEK1/MKK4 Antibody - 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

Phospho-JKK1/SEK1/MKK4 Antibody - Images

Phospho-JKK1/SEK1/MKK4 Antibody - Background

SAPK/Erk kinase (SEK1), also known as MKK4 or Jun kinase kinase (JNKK), activates the MAP kinase homologues SAPK and JNK in response to various cellular stresses and inflammatory cytokines. Activation of SEK1 occurs thro µgh phosphorylation of serine and threonine residues at positions 257 and 261, respectively, by MEKK. Like MEK, SEK is a dual-specificity protein kinase that phosphorylates SAPK/JNK at a conserved T*PY* site in its activation loop. Phosphorylation by Akt at Ser80 inhibits SEK1 and suppresses the stress-activated signal transduction.