

SEK1/MKK4/JKK1 Antibody
Rabbit Polyclonal Antibody
Catalog # ABV10670**Specification**

SEK1/MKK4/JKK1 Antibody - Product Information

Application	WB
Primary Accession	P47809
Other Accession	EDL10407
Reactivity	Human, Mouse, Dog
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	44114

SEK1/MKK4/JKK1 Antibody - Additional Information**Gene ID** 26398

Positive Control
Application & Usage

Western Blot: Jurkat cell lysate
Western blotting (0.5-4 µg/ml). However,
the optimal concentrations should be
determined individually. The antibody
recognizes unphosphorylated and
phosphorylated SEK1 from samples of
human, mouse, and dog origins.

Other Names

NKK , JNKK1 , MAP kinase kinase 4 , MAP2K4 , MAPK/ERK kinase 4 , MAPKK4 , MEK4 , monkeyK4 , PRKMK4 , SAPK/ERK kinase 1 , SEK1 , SERK1

Target/Specificity

SEK1/MKK4/JKK1

Antibody Form

Liquid

Appearance

Colorless liquid

Formulation

100 µg (0.5 mg/ml) affinity purified rabbit polyclonal antibody in phosphate-buffered saline (PBS) containing 30% glycerol, 0.5% BSA, and 0.01% thimerosal.

Handling

The antibody solution should be gently mixed before use.

Reconstitution & Storage

-20 °C

Background Descriptions

Precautions

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

SEK1/MKK4/JKK1 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

Strong expression is detected in most of the central nervous system and in liver and thymus during early stages of development. While expression in nervous system increases over time, expression in fetal liver and thymus gradually decreases as embryogenesis proceeds. High level of expression in the central nervous system persists throughout postnatal development and remained at a stable level in adult brain.

SEK1/MKK4/JKK1 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 Cytometry](#)
- [Cell Culture](#)

SEK1/MKK4/JKK1 Antibody - Images**SEK1/MKK4/JKK1 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 through 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.