

# MAP2K4 Antibody

Purified Mouse Monoclonal Antibody

Catalog # AO1520a

## Product Information

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<b>Application</b>	WB, IHC, FC, E
<b>Primary Accession</b>	<a href="#">P45985</a>
<b>Reactivity</b>	Human
<b>Host</b>	Mouse
<b>Clonality</b>	Monoclonal
<b>Clone Names</b>	5H4
<b>Isotype</b>	IgG1
<b>Calculated MW</b>	44288
<b>Description</b>	This gene encodes a dual specificity protein kinase that belongs to the Ser/Thr protein kinase family. This kinase is a direct activator of MAP kinases in response to various environmental stresses or mitogenic stimuli. It has been shown to activate MAPK8/JNK1, MAPK9/JNK2, and MAPK14/p38, but not MAPK1/ERK2 or MAPK3/ERK3. This kinase is phosphorylated, and thus activated by MAP3K1/MEKK. The knockout studies in mice suggested the roles of this kinase in mediating survival signal in T cell development, as well as in the organogenesis of liver. Tissue specificity: Abundant expression is seen in the skeletal muscle. It is also widely expressed in other tissues .
<b>Immunogen</b>	Purified recombinant fragment of human MAP2K4 expressed in E. Coli.
<b>Formulation</b>	Ascitic fluid containing 0.03% sodium azide.

## Additional Information

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<b>Gene ID</b>	6416
<b>Other Names</b>	Dual specificity mitogen-activated protein kinase kinase 4, MAP kinase kinase 4, MAPKK 4, 2.7.12.2, JNK-activating kinase 1, MAPK/ERK kinase 4, MEK 4, SAPK/ERK kinase 1, SEK1, Stress-activated protein kinase kinase 1, SAPK kinase 1, SAPKK-1, SAPKK1, c-Jun N-terminal kinase kinase 1, JNKK, MAP2K4, JNKK1, MEK4, MKK4, PRKMK4, SEK1, SERK1, SKK1
<b>Dilution</b>	WB~~1/500 - 1/2000 IHC~~1/500 - 1/2000 FC~~1/200 - 1/400 E~~1/10000
<b>Storage</b>	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
<b>Precautions</b>	MAP2K4 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

<b>Name</b>	MAP2K4
<b>Synonyms</b>	JNKK1, MEK4, MKK4, PRKMK4, SEK1, SERK1,
<b>Function</b>	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.
<b>Cellular Location</b>	Cytoplasm. Nucleus.
<b>Tissue Location</b>	Abundant expression is seen in the skeletal muscle. It is also widely expressed in other tissues

## References

1. J Biol Chem. 2009 Jan 2;284(1):685-95. 2. J Immunol. 2008 Sep 1;181(5):3252-8.

## Images

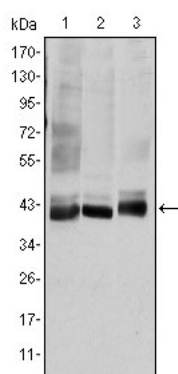


Figure 1: Western blot analysis using MAP2K4 mouse mAb against HepG2 (1), K562 (2), and HEK293 (3) cell lysate.

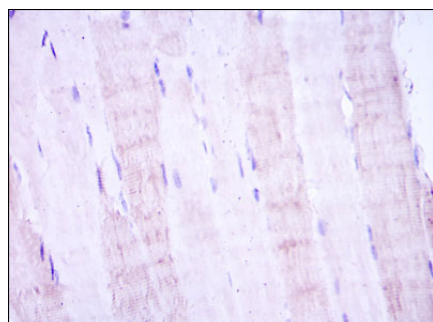


Figure 2: Immunohistochemical analysis of paraffin-embedded muscle tissues using MAP2K4 mouse mAb with DAB staining.

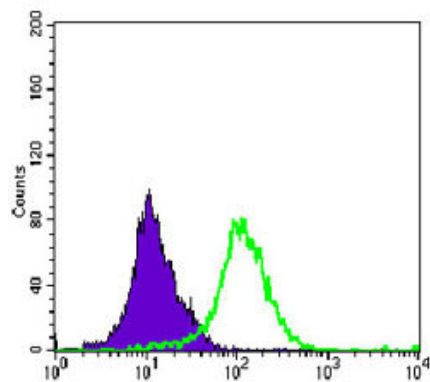


Figure 3: Flow cytometric analysis of K562 cells using MAP2K4 mouse mAb (green) and negative control (purple).

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