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MAP2K4 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1520a

Product Information

Application	WB, IHC, FC, E
Primary Accession	P45985
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	5H4
Isotype	IgG1
Calculated MW	44288
Description	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 .
Immunogen	Purified recombinant fragment of human MAP2K4 expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

Additional Information

Gene ID	6416
Other Names	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
Dilution	WB~~1/500 - 1/2000 IHC~~1/500 - 1/2000 FC~~1/200 - 1/400 E~~1/10000
Storage	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.
Precautions	MAP2K4 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

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

References

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

Images

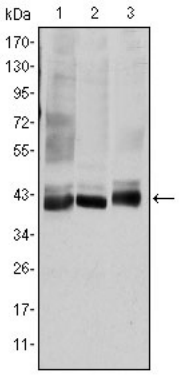


Figure 1: Western blot analysis using MAP2K4 mouse mAb against HepG2 (1), K562 (2), and HEK293 (3) cell lysate.

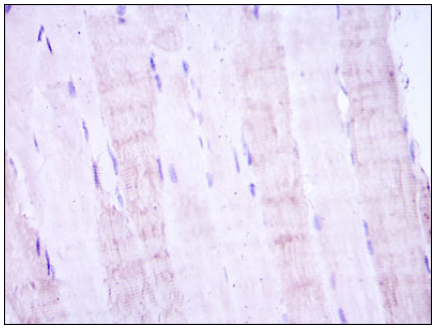


Figure 2: Immunohistochemical analysis of paraffin-embedded muscle tissues using MAP2K4 mouse mAb with DAB staining.

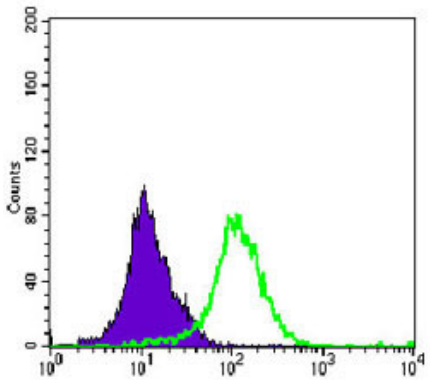


Figure 3: Flow cytometric analysis of K562 cells using MAP2K4 mouse mAb (green) and negative control (purple).

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