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MEK4 (MAP2K4) Antibody (S257)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7916D

Product Information

Application	WB, IHC-P, E
Primary Accession	P45985
Other Accession	P47809, Q07192
Reactivity	Human
Predicted	Mouse, Xenopus
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB11276
Calculated MW	44288
Antigen Region	235-264

Additional Information

Gene ID	6416
Other Names	Dual specificity mitogen-activated protein kinase kinase 4, MAP kinase kinase 4, MAPKK 4, 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
Target/Specificity	This MEK4(MAP2K4) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 235-264 amino acids from human MEK4(MAP2K4).
Dilution	WB~~1:2000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	MEK4 (MAP2K4) Antibody (S257) 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

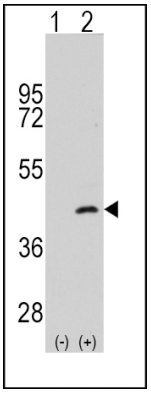
Background

MAP2K4 is 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. MAP2K4 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.

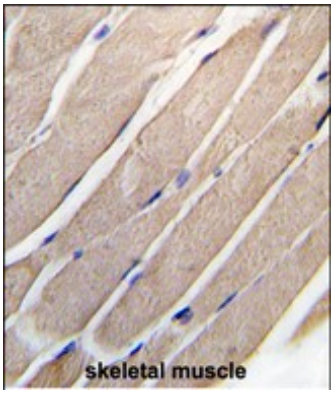
References

Robinson,V.L.,Mol. Cancer Res. 6 (3), 501-508 (2008)
Zhang,H.,J. Biol. Chem. 282 (20), 14788-14796 (2007)
Salmeron,A.,EMBO J. 15 (4), 817-826 (1996)

Images



Western blot analysis of MAP2K4 (arrow) using rabbit polyclonal MAP2K4 Antibody (S257) (Cat.#AP7916d).293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the MAP2K4 gene (Lane 2) (Origene Technologies).



Formalin-fixed and paraffin-embedded human skeletal muscle tissue reacted with MAP2K4 Antibody (S257) (Cat.#AP7916d), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

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