10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

ASK1 (MEKK5/MAP3K5) Antibody (S83)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7911e

Product Information

Application	WB, IHC-P, E
Primary Accession	Q99683
Reactivity	Human, Rat, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB12709
Calculated MW	154537
Antigen Region	61-90

Additional Information

Gene ID	4217
Other Names	Mitogen-activated protein kinase kinase kinase 5, Apoptosis signal-regulating kinase 1, ASK-1, MAPK/ERK kinase kinase 5, MEK kinase 5, MEKK 5, MAP3K5, ASK1, MAPKKK5, MEKK5
Target/Specificity	This ASK1(MEKK5/MAP3K5) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 61-90 amino acids from human ASK1(MEKK5/MAP3K5).
Dilution	WB~~1:1000 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	ASK1 (MEKK5/MAP3K5) Antibody (S83) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	MAP3K5
Synonyms	ASK1, MAPKKK5, MEKK5
Function	Serine/threonine kinase which acts as an essential component of the MAP

kinase signal transduction pathway. Plays an important role in the cascades of cellular responses evoked by changes in the environment. Mediates signaling for determination of cell fate such as differentiation and survival. Plays a crucial role in the apoptosis signal transduction pathway through mitochondria-dependent caspase activation. MAP3K5/ASK1 is required for the innate immune response, which is essential for host defense against a wide range of pathogens. Mediates signal transduction of various stressors like oxidative stress as well as by receptor-mediated inflammatory signals, such as the tumor necrosis factor (TNF) or lipopolysaccharide (LPS). Once activated, acts as an upstream activator of the MKK/JNK signal transduction cascade and the p38 MAPK signal transduction cascade through the phosphorylation and activation of several MAP kinase kinases like MAP2K4/SEK1, MAP2K3/MKK3, MAP2K6/MKK6 and MAP2K7/MKK7. These MAP2Ks in turn activate p38 MAPKs and c-jun N-terminal kinases (JNKs). Both p38 MAPK and JNKs control the transcription factors activator protein-1 (AP-1).

Cellular Location Cytoplasm. Endoplasmic reticulum. Note=Interaction with 14-3-3 proteins alters the distribution of MAP3K5/ASK1 and restricts it to the perinuclear endoplasmic reticulum region

Tissue Location Abundantly expressed in heart and pancreas.

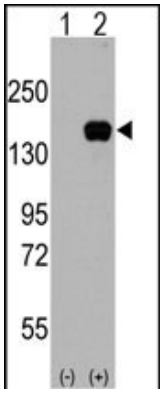
Background

Mitogen-activated protein kinase (MAPK) signaling cascades include MAPK or extracellular signal-regulated kinase (ERK), MAPK kinase (MKK or MEK), and MAPK kinase kinase (MAPKKK or MEKK). MAPKK kinase/MEKK phosphorylates and activates its downstream protein kinase, MAPK kinase/MEK, which in turn activates MAPK. The kinases of these signaling cascades are highly conserved, and homologs exist in yeast, Drosophila, and mammalian cells. MAPKKK5 contains 1,374 amino acids with all 11 kinase subdomains. Northern blot analysis shows that MAPKKK5 transcript is abundantly expressed in human heart and pancreas. The MAPKKK5 protein phosphorylates and activates MKK4 (aliases SERK1, MAPKK4) in vitro, and activates c-Jun N-terminal kinase (JNK)/stress-activated protein kinase (SAPK) during transient expression in COS and 293 cells; MAPKKK5 does not activate MAPK/ERK.

References

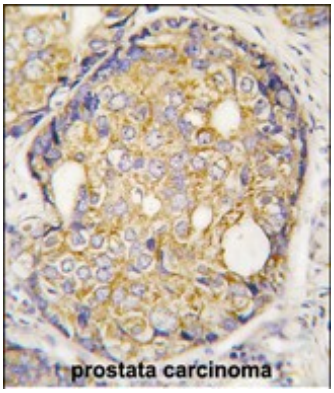
Min,W.,Circ. Res. 102 (7), 840-848 (2008)
Li,X.,Cell Death Differ. 15 (4), 739-750 (2008)
Noguchi,T.,J. Biol. Chem. 283 (12), 7657-7665 (2008)

Images



Western blot analysis of MAP3K5 (arrow) using rabbit polyclonal MAP3K5 Antibody (Cat.#AP7911e).293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the MAP3K5 gene (Lane 2) (Origene Technologies).

Formalin-fixed and paraffin-embedded human prostata



carcinoma tissue reacted with MAP3K5 Antibody (S83) (Cat.#AP7911e), 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'.