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ASK1 Antibody

Catalog # ASC10025

Product Information

Application	WB, IF, ICC, E
Primary Accession	Q99683
Other Accession	Q99683, 6685617
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	154537
Conjugate	Unconjugated
Application Notes	ASK1 antibody can be used for detection of ASK1 by Western blot at 0.5 g/mL. A 155 kDa band can be detected. Antibody can also be used for immunocytochemistry starting at 10 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	4217
Other Names	ASK1 Antibody: ASK1, MEKK5, MAPKKK5, ASK1, Mitogen-activated protein kinase kinase kinase 5, Apoptosis signal-regulating kinase 1, ASK-1, mitogen-activated protein kinase kinase kinase 5
Target/Specificity	MAP3K5;
Reconstitution & Storage	ASK1 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	ASK1 Antibody 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

ASK1 Antibody: Mitogen-activated protein (MAP) kinase cascades are activated in response to various extracellular stimuli, including cytokines, growth factors and environmental stresses. A novel MAP kinase kinase kinase (MAPKKK) was recently identified and designated ASK1 (for apoptosis signal-regulating kinase 1) and MAPKKK5. ASK1 activated two different subgroups of MAPKK, MKK4 and MKK6, which in turn activated c-Jun N-terminal kinase (JNK) and p38 MAP kinase, respectively. ASK1/MAPKKK5 is activated by TNFR and Fas through the interaction with members of the TRAF family and Fas-associated protein Daxx. Overexpression of ASK1 induced apoptotic cell death, and a catalytically inactive form of ASK1 inhibited TNF-α-induced apoptosis. ASK1 is expressed in variety of human and mouse tissues.

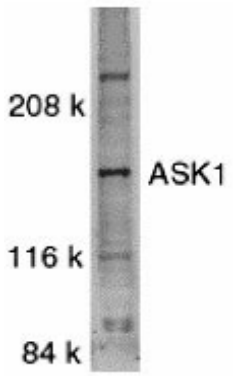
References

Ichijo H, Nishida E, Irie K, ten Dijke P, Saitoh M, Moriguchi T, Takagi M, Matsumoto K, Miyazono K, Gotoh Y. Induction of apoptosis by ASK1, a mammalian MAPKKK that activates SAPK/JNK and p38 signaling pathways. Science 1997;275:90-4

Wang XS, Diener K, Jannuzzi D, Trollinger D, Tan TH, Lichenstein H, Zukowski M, Yao Z. Molecular cloning and characterization of a novel protein kinase with a catalytic domain homologous to mitogen-activated protein kinase kinase kinase. J Biol Chem 1996;271:31607-11

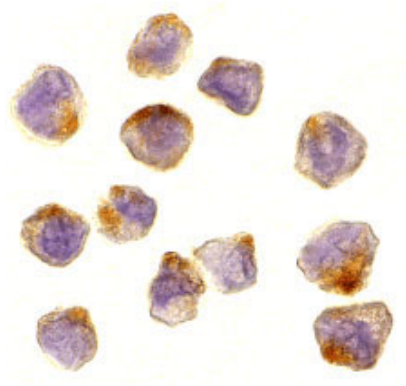
Tobiume K, Inage T, Takeda K, Enomoto S, Miyazono K, Ichijo H. Molecular cloning and characterization of the mouse apoptosis signal-regulating kinase 1. Biochem Biophys Res Commun 1997;239:905-10

Images

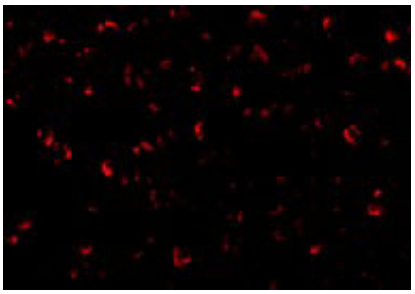


Western blot analysis of ASK1 in SW1353 whole cell lysate with ASK1 antibody at 1:500 dilution.

Immunocytochemistry of ASK1 in A431 cells with ASK1



antibody at 10 µg/mL.



Immunofluorescence of ASK1 in A431 cells with ASK1 antibody at 20 µg/mL.