

ASK 1 (F-9): sc-5294



The Power to Question

BACKGROUND

Mitogen-activated protein (MAP) kinase cascades are activated by various extracellular stimuli including growth factors. The MEK kinases (also designated MAP kinase kinase kinases, MKKKs, MAP3Ks or MEKKs) phosphorylate and thereby activate the MEKs (also called MAP kinase kinases or MKKs), including ERK, JNK and p38. These activated MEKs in turn phosphorylate and activate the MAP kinases. The MEK kinases include Raf-1, Raf-B, Mos, MEK kinase-1, MEK kinase-2, MEK kinase-3, MEK kinase-4, ASK 1 (MEK kinase-5) and MAP3K6 (MEK kinase-6). MEK kinase-1 has been shown to phosphorylate MEK-1 via a Raf-independent pathway. Evidence suggests that MEK-3 is preferentially activated by MEK kinase-3 and that MEK-4 is activated by both MEK kinase-2 and MEK kinase-3. MEK kinase-4 has been shown to specifically activate the JNK pathway. ASK1 activates both MEK-4 and MEK-3/MEK-6 pathways.

CHROMOSOMAL LOCATION

Genetic locus: MAP3K5 (human) mapping to 6q23.3.

SOURCE

ASK 1 (F-9) is a mouse monoclonal antibody raised against amino acids 1076-1375 of ASK 1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ASK 1 (F-9) is available conjugated to agarose (sc-5294 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-5294 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-5294 PE), fluorescein (sc-5294 FITC), Alexa Fluor® 488 (sc-5294 AF488), Alexa Fluor® 546 (sc-5294 AF546), Alexa Fluor® 594 (sc-5294 AF594) or Alexa Fluor® 647 (sc-5294 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-5294 AF680) or Alexa Fluor® 790 (sc-5294 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

ASK 1 (F-9) is recommended for detection of ASK 1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ASK 1 siRNA (h): sc-29748, ASK 1 shRNA Plasmid (h): sc-29748-SH and ASK 1 shRNA (h) Lentiviral Particles: sc-29748-V.

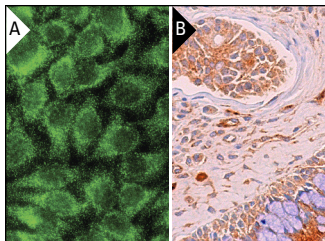
Molecular Weight of ASK 1: 165 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or BJAB whole cell lysate: sc-2207.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



ASK 1 (F-9): sc-5294. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human nasopharynx tissue showing cytoplasmic staining of respiratory epithelial cells and glandular cells (B).

SELECT PRODUCT CITATIONS

1. Cho, S., et al. 2004. Positive regulation of apoptosis signal-regulating kinase 1 by hD53L1. *J. Biol. Chem.* 279: 16050-16056.
2. Fujii, K., et al. 2004. Negative control of apoptosis signal-regulating kinase 1 through phosphorylation of Ser 1034. *Oncogene* 23: 5099-5104.
3. Myers, C.R., et al. 2011. The effects of acrolein on the thioredoxin system: implications for redox-sensitive signaling. *Mol. Nutr. Food Res.* 55: 1361-1374.
4. Zhang, T.L., et al. 2012. The neuroprotective effect of losartan through inhibiting AT1/ASK1/MKK4/JNK3 pathway following cerebral I/R in rat hippocampal CA1 region. *CNS Neurosci. Ther.* 18: 981-987.
5. Puckett, M.C., et al. 2013. Integration of apoptosis signal-regulating kinase 1-mediated stress signaling with the Akt/protein kinase B-IκB kinase cascade. *Mol. Cell. Biol.* 33: 2252-2259.
6. Gan, F.F., et al. 2013. Identification of Michael acceptor-centric pharmacophores with substituents that yield strong thioredoxin reductase inhibitory character correlated to antiproliferative activity. *Antioxid. Redox Signal.* 19: 1149-1165.
7. Tristan, C.A., et al. 2015. Role of apoptosis signal-regulating kinase 1 (ASK1) as an activator of the GAPDH-Siah1 stress-signaling cascade. *J. Biol. Chem.* 290: 56-64.
8. Lin, C.C., et al. 2016. TNF-α-induced cPLA₂ expression via NADPH oxidase/reactive oxygen species-dependent NFκB cascade on human pulmonary alveolar epithelial cells. *Front. Pharmacol.* 7: 447.
9. Federspiel, J.D., et al. 2016. Assembly dynamics and stoichiometry of the apoptosis signal-regulating kinase (ASK) signalosome in response to electrophile stress. *Mol. Cell. Proteomics* 15: 1947-1961.

RESEARCH USE

For research use only, not for use in diagnostic procedures.