

ASK 1 (E-6): sc-390397

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.

REFERENCES

1. Lange-Carter, C.A., et al. 1993. A divergence in the MAP kinase regulatory network defined by MEK kinase and Raf. *Science* 260: 315-319.
2. Guan, K.L. 1994. The mitogen activated protein kinase signal transduction pathway: from the cell surface to the nucleus. *Cell. Signal.* 6: 581-589.
3. Wang, X.S., et al. 1996. Molecular cloning and characterization of a novel protein kinase with a catalytic domain homologous to mitogen-activated protein kinase kinase kinase. *J. Biol. Chem.* 271: 31607-31611.
4. Fanger, G.R., et al. 1997. MEK kinases are regulated by EGF and selectively interact with Rac/Cdc42. *EMBO J.* 16: 4961-4972.
5. Gerwins, P., et al. 1997. Cloning of a novel mitogen-activated protein kinase kinase kinase, MEKK4, that selectively regulates the c-Jun amino terminal kinase pathway. *J. Biol. Chem.* 272: 8288-8295.
6. Deacon, K., et al. 1997. Characterization of the mitogen-activated protein kinase kinase 4 (MKK4)/ c-Jun NH₂-terminal kinase 1 and MKK3/p38 pathways regulated by MEK kinases 2 and 3. MEK kinase 3 activates MKK3 but does not cause activation of p38 kinase *in vivo*. *J. Biol. Chem.* 272: 14489-14496.

CHROMOSOMAL LOCATION

Genetic locus: MAP3K5 (human) mapping to 6q23.3; Map3k5 (mouse) mapping to 10 A3.

SOURCE

ASK 1 (E-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-31 at the N-terminus of ASK 1 of human origin.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-390397 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

ASK 1 (E-6) is recommended for detection of ASK 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) 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 siRNA (m): sc-29749, ASK 1 shRNA Plasmid (h): sc-29748-SH, ASK 1 shRNA Plasmid (m): sc-29749-SH, ASK 1 shRNA (h) Lentiviral Particles: sc-29748-V and ASK 1 shRNA (m) Lentiviral Particles: sc-29749-V.

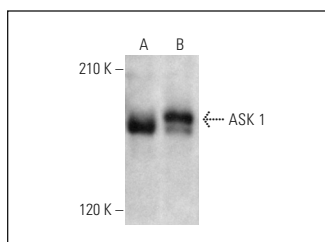
Molecular Weight of ASK 1: 165 kDa.

Positive Controls: ASK 1 (h2): 293T Lysate: sc-116417, NIH/3T3 whole cell lysate: sc-2210 or Raji whole cell lysate: sc-364236.

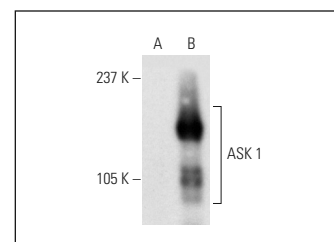
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



ASK 1 (E-6): sc-390397. Western blot analysis of ASK 1 expression in NIH/3T3 (A) and Raji (B) whole cell lysates.



ASK 1 (E-6): sc-390397. Western blot analysis of ASK 1 expression in non-transfected: sc-117752 (A) and human ASK 1 transfected: sc-116417 (B) 293T whole cell lysates.

RESEARCH USE

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