

ASK 1 (H-2): sc-390275

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.

CHROMOSOMAL LOCATION

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

SOURCE

ASK 1 (H-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-29 at the N-terminus of ASK 1 of human origin.

PRODUCT

Each vial contains 200 µg IgM 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-390275 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

ASK 1 (H-2) 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.

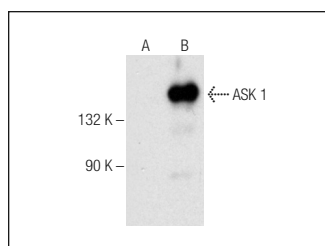
Molecular Weight of ASK 1: 165 kDa.

Positive Controls: ASK 1 (h2): 293T Lysate: sc-116417.

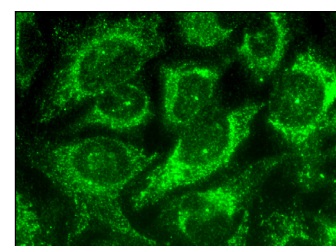
RECOMMENDED SUPPORT REAGENTS

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 L-Agarose: sc-2336 (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 (H-2): sc-390275. 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.



ASK 1 (H-2): sc-390275. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Zhuo, R., et al. 2014. Targeting glutathione S-transferase M4 in Ewing sarcoma. *Front. Pediatr.* 2: 83.
2. Seong, H.A., et al. 2021. Ablation of AMPK-related kinase MPK38/MELK leads to male-specific obesity in aged mature adult mice. *Diabetes* 70: 386-399.
3. He, Q., et al. 2021. Apelin-36 protects against lipopolysaccharide-induced acute lung injury by inhibiting the ASK1/MAPK signaling pathway. *Mol. Med. Rep.* 23: 6.
4. Vellino, S., et al. 2021. Cross-talk between the calcium channel TRPV4 and reactive oxygen species interlocks adhesive and degradative functions of invadosomes. *J. Cell Biol.* 220: e201910079.
5. Gorini, G., et al. 2021. Au₂phen and Auoxo6, two dinuclear oxo-bridged gold(III) compounds, induce apoptotic signaling in human ovarian A2780 cancer cells. *Biomedicines* 9: 871.
6. Wang, L., et al. 2022. Nitrate inactivation of thioredoxin-1 loses its protective effect in bleomycin-induced pulmonary fibrosis. *Int. Immunopharmacol.* 112: 109208.

STORAGE

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

RESEARCH USE

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