

ERK 2 (H-9): sc-271451

BACKGROUND

Mitogen-activated protein kinase (MAPK) signaling pathways involve two closely related MAP kinases, known as extracellular-signal-related kinase 1 (ERK 1, p44) and 2 (ERK 2, p42). Growth factors, steroid hormones, G protein-coupled receptor ligands and neurotransmitters can initiate MAPK signaling pathways. Activation of ERK 1 and ERK 2 requires phosphorylation by upstream kinases such as MAP kinase kinase (MEK), MEK kinase and Raf-1. ERK 1 and ERK 2 phosphorylation can occur at specific tyrosine and threonine sites mapping within consensus motifs that include the threonine-glutamate-tyrosine motif. ERK activation leads to dimerization with other ERKs and subsequent localization to the nucleus. Active ERK dimers phosphorylate serine and threonine residues on nuclear proteins and influence a host of responses that include proliferation, differentiation, transcription regulation and development. The human ERK 2 gene maps to chromosome 22q11.21 and encodes a 360 amino acid protein.

CHROMOSOMAL LOCATION

Genetic locus: MAPK1 (human) mapping to 22q11.21; Mapk1 (mouse) mapping to 16 A3.

SOURCE

ERK 2 (H-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 276-333 within subdomain XI of rat ERK 2-encoded MAP kinase p42.

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-271451 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

ERK 2 (H-9) is recommended for detection of ERK 2 p42 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), 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).

ERK 2 (H-9) is also recommended for detection of ERK 2 p42 in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for ERK 2 siRNA (h): sc-35335, ERK 2 siRNA (m): sc-35336, ERK 2 siRNA (r): sc-156031, ERK 2 shRNA Plasmid (h): sc-35335-SH, ERK 2 shRNA Plasmid (m): sc-35336-SH, ERK 2 shRNA Plasmid (r): sc-156031-SH, ERK 2 shRNA (h) Lentiviral Particles: sc-35335-V, ERK 2 shRNA (m) Lentiviral Particles: sc-35336-V and ERK 2 shRNA (r) Lentiviral Particles: sc-156031-V.

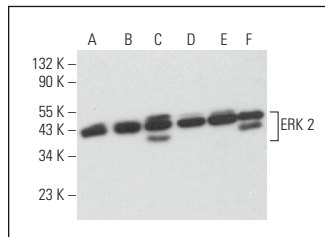
Molecular Weight of ERK 2: 42 kDa.

Positive Controls: F9 cell lysate: sc-2245 or BYDP whole cell lysate: sc-364368.

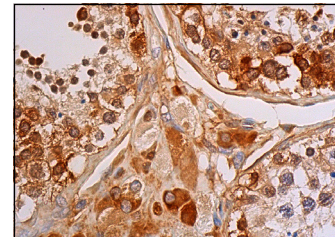
STORAGE

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

DATA



ERK 2 (H-9): sc-271451. Western blot analysis of ERK 2 expression in HEL 92.1.7 (A), PC-3 (B), AT3B-1 (C), BYDP (D), F9 (E) and NIH/3T3 (F) whole cell lysates.



ERK 2 (H-9): sc-271451. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic and nuclear staining of cells in seminiferous ducts and Leydig cells.

SELECT PRODUCT CITATIONS

- Li, R., et al. 2013. Metal-dependent protein phosphatase 1A functions as an extracellular signal-regulated kinase phosphatase. *FEBS J.* 280: 2700-2711.
- Ramírez de Arellano, A., et al. 2015. STAT3 activation is required for the antiapoptotic effects of prolactin in cervical cancer cells. *Cancer Cell Int.* 15: 83.
- Martínez-Neri, P.A., et al. 2015. Prolactin modulates cytokine production induced by culture filtrate proteins of *M. bovis* through different signaling mechanisms in THP1 cells. *Cytokine* 71: 38-44.
- de Raaf, M.A., et al. 2016. Tyrosine kinase inhibitor BIBF1000 does not hamper right ventricular pressure adaptation in rats. *Am. J. Physiol. Heart Circ. Physiol.* 311: H604-H612.
- Chen, P.C., et al. 2018. Anti-metastatic effects of antrodon with and without cisplatin on Lewis lung carcinomas in a mouse xenograft model. *Int. J. Mol. Sci.* 19: 1565.

RESEARCH USE

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

PROTOCOLS

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



See **ERK 2 (D-2): sc-1647** for ERK 2 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.