

ERK 3 (B-10): sc-365234

BACKGROUND

Mitogen-activated protein kinase (MAPK) signaling pathways involve closely related MAP kinases, including extracellular-signal-related kinase 3 (ERK 3, also designated PRKM6 and p97MAPK). Serum, growth factors and phorbol esters can initiate ERK 3 signaling pathways. Despite lacking a definitive nuclear localization sequence, ERK 3 constitutively localizes to the nucleus upon activation. p38 pathway activation-dependent upregulation of ERK 3 is independent of the status of p53, Bcl-2 and caspase-3 during cell stress and damage induced by proteasome inhibition, suggesting ERK 3 in part mediates intracellular defense or cell rescue. The human ERK 3 gene maps to chromosome 15q21.2 and encodes a 721 amino acid protein.

CHROMOSOMAL LOCATION

Genetic locus: MAPK6 (human) mapping to 15q21.2; Mapk6 (mouse) mapping to 9 D.

SOURCE

ERK 3 (B-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 345-377 within an internal region of ERK 3 of rat 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.

ERK 3 (B-10) is available conjugated to agarose (sc-365234 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365234 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365234 PE), fluorescein (sc-365234 FITC), Alexa Fluor[®] 488 (sc-365234 AF488), Alexa Fluor[®] 546 (sc-365234 AF546), Alexa Fluor[®] 594 (sc-365234 AF594) or Alexa Fluor[®] 647 (sc-365234 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-365234 AF680) or Alexa Fluor[®] 790 (sc-365234 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-365234 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

ERK 3 (B-10) is recommended for detection of ERK 3 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 3 (B-10) is also recommended for detection of ERK 3 in additional species, including equine, canine and porcine.

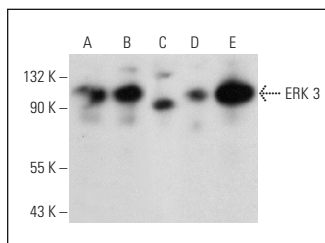
Suitable for use as control antibody for ERK 3 siRNA (h): sc-35337, ERK 3 siRNA (m): sc-35338, ERK 3 shRNA Plasmid (h): sc-35337-SH, ERK 3 shRNA Plasmid (m): sc-35338-SH, ERK 3 shRNA (h) Lentiviral Particles: sc-35337-V and ERK 3 shRNA (m) Lentiviral Particles: sc-35338-V.

Molecular Weight of ERK 3: 97 kDa.

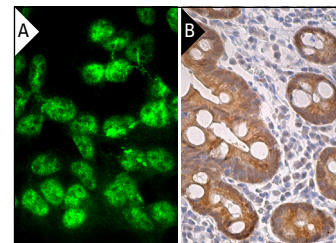
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



ERK 3 (B-10): sc-365234. Western blot analysis of ERK 3 expression in PC-12 (A), K-562 (B), 3T3-L1 (C), RAW 264.7 (D) and C6 (E) whole cell lysates.



ERK 3 (B-10): sc-365234. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic staining of glandular cells (B).

SELECT PRODUCT CITATIONS

- Yang, W., et al. 2016. Treatment with bone marrow mesenchymal stem cells combined with plumbagin alleviates spinal cord injury by affecting oxidative stress, inflammation, apoptosis and the activation of the Nrf2 pathway. *Int. J. Mol. Med.* 37: 1075-1082.
- Cai, Q., et al. 2021. MAPK6-Akt signaling promotes tumor growth and resistance to mTOR kinase blockade. *Sci. Adv.* 7: eabi6439.
- Jin, Y., et al. 2022. Inactivation of EGLN3 hydroxylase facilitates Erk3 degradation via autophagy and impedes lung cancer growth. *Oncogene*. E-published.

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.

PROTOCOLS

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

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