SANTA CRUZ BIOTECHNOLOGY, INC.

ERK 3 (D-23): sc-155



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, Bcl2 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 (D-23) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within subdomain XI of ERK 3 of rat origin.

PRODUCT

Each vial contains 200 μg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-155 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as phycoerythrin conjugate for flow cytometry, sc-155 PE, 100 tests.

Available as Alexa Fluor[®] 405 (sc-155 AF405), Alexa Fluor[®] 488 (sc-155 AF488) or Alexa Fluor[®] 647 (sc-155 AF647) conjugates for flow cytometry or immunofluorescence; 100 µg/2 ml.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

ERK 3 (D-23) is recommended for detection of ERK3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 μ g per 1 x 10⁶ cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:300).

ERK 3 (D-23) is also recommended for detection of ERK 3 in additional species, including equine, canine, bovine, porcine and avian.

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.

Positive Controls: ERK 3 (h): 293T Lysate: sc-113523, SJRH30 cell lysate: sc-2287 or KNRK nuclear extract: sc-2141.

STORAGE

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

DATA





ERK 3 (D-23): sc-155. Western blot analysis of ERK 3 expression in non-transfected: sc-117752 (**A**) and human ERK 3 transfected: sc-113523 (**B**) 293T whole cell lysates

ERK 3 (D-23): sc-155. Immunofluorescence staining of formalin-fixed HepG2 cells showing nuclear and cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Bird, T.A., et al. 1994. Interleukin-1 activates p54 mitogen-activated protein (MAP) kinase/stress-activated protein kinase by a pathway that is independent of p21ras, Raf-1, and MAP kinase kinase. J. Biol. Chem. 269: 31836-31844.
- Avots, A., et al. 1999. CBP/p300 integrates Rf/Rac-signaling pathways in the transcriptional induction of NF-ATc during T cell activation. Immunity 10: 515-524.
- Trembley, J.H., et al. 2003. Casein kinase 2 interacts with cyclin-dependent kinase 11 (CDK11) *in vivo* and phosphorylates both the RNA polymerase II carboxyl-terminal domain and Cdk11 *in vitro*. J. Biol. Chem. 278: 2265-2270.
- 4. Liang, B., et al. 2005. Increased expression of mitogen-activated protein kinase and its upstream regulating signal in human gastric cancer. World J. Gastroenterol. 11: 623-628.
- Kant, S., et al. 2006. Characterization of the atypical MAPK ERK4 and its activation of the MAPK-activated protein kinase MK5. J. Biol. Chem. 281: 35511-35519.

RESEARCH USE

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

PROTOCOLS

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

MONOS Satisfation Guaranteed

Try ERK 3 (B-10): sc-365234 or ERK 3 (G-2): sc-393371, our highly recommended monoclonal alternatives to ERK 3 (D-23).