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Lieferung & Zahlungsart

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- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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SANTA CRUZ BIOTECHNOLOGY, INC.

ERK 1 (h2): 293T Lysate: sc-171765

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 1 gene maps to chromosome 16p11.2 and encodes a 379 amino acid protein that shares 83% sequence identity to ERK 2.

REFERENCES

1. Boulton, T.G., et al. 1991. ERKs: a family of protein-serine/threonine kinases that are activated and tyrosine phosphorylated in response to Insulin and NGF. Cell 65: 663-675.
2. Crews, C.M., et al. 1992. The primary structure of MEK, a protein kinase that phosphorylates the ERK gene product. Science 258: 478-480.
3. Haycock, J.W., et al. 1992. ERK 1 and ERK 2, two microtubule-associated protein 2 kinases, mediate the phosphorylation of tyrosine hydroxylase at Serine 31 *in situ*. Proc. Natl. Acad. Sci. USA 89: 2365-2369.
4. Charest, D.L., et al. 1993. Molecular cloning, expression, and characterization of the human mitogen-activated protein kinase p44 ERK 1. Mol. Cell. Biol. 13: 4679-4690.
5. Khokhlatchev, A.V., et al. 1998. Phosphorylation of the MAP kinase ERK 2 promotes its homodimerization and nuclear translocation. Cell 93: 605-615.
6. Pages, G., et al. 2000. Signaling angiogenesis *via* p42/p44 MAP kinase cascade. Ann. N.Y. Acad. Sci. 902: 187-200.

CHROMOSOMAL LOCATION

Genetic locus: MAPK3 (human) mapping to 16p11.2.

PRODUCT

ERK 1 (h2): 293T Lysate represents a lysate of human ERK 1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

ERK 1 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive ERK 1 antibodies.

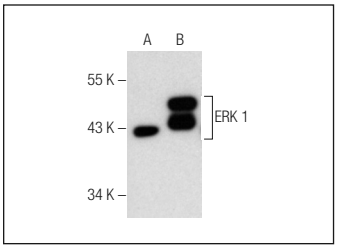
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

ERK 1 (G-12): sc-376852 is recommended as a positive control antibody for Western Blot analysis of enhanced human ERK 1 expression in ERK 1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



ERK 1 (G-12): sc-376852. Western blot analysis of ERK 1 expression in non-transfected: sc-117752 (**A**) and human ERK 1 transfected: sc-171765 (**B**) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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.