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# Produktinformation

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# ERK 1 (m): 293T Lysate: sc-126806

## 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 (mouse) mapping to 7 F3.

## PRODUCT

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

## APPLICATIONS

ERK 1 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive ERK 1 antibodies. Recommended use: 10-20 µl per lane.

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

ERK 1 (G-8): sc-271269 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse ERK 1 expression in ERK 1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).
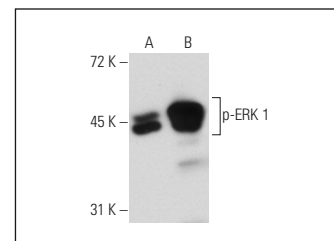
## STORAGE

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.

## DATA
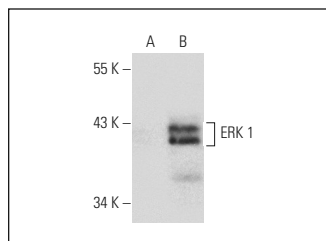


ERK 1 (G-8): sc-271269. Western blot analysis of ERK 1 expression in non-transfected: sc-117752 (**A**) and mouse ERK 1 transfected: sc-126806 (**B**) 293T whole cell lysates.

p-ERK (E-4): sc-7383. Western blot analysis of ERK 1 phosphorylation in non-transfected: sc-117752 (**A**) and mouse ERK 1 transfected: sc-126806 (**B**) 293T whole cell lysates.

## 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.