

ERK 2 (4C11C11C4): sc-65981

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 (4C11C11C4) is a mouse monoclonal antibody raised against purified full length recombinant ERK 2 of human origin.

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.

STORAGE

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

APPLICATIONS

ERK 2 (4C11C11C4) is recommended for detection of ERK 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

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.

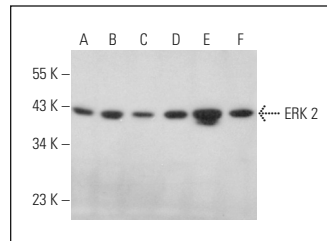
Molecular Weight of ERK 2: 42 kDa.

Positive Controls: 3611-RF whole cell lysate: sc-2215, K-562 whole cell lysate: sc-2203 or KNRK whole cell lysate: sc-2214.

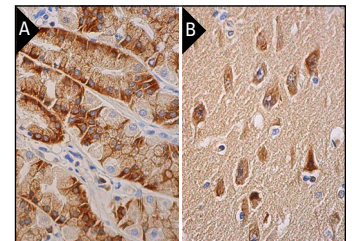
RECOMMENDED SUPPORT REAGENTS

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 2 (4C11C11C4): sc-65981. Western blot analysis of ERK 2 expression in Jurkat (A), THP-1 (B), NIH/3T3 (C), KNRK (D), 3611-RF (E) and K-562 (F) whole cell lysates.



ERK 2 (4C11C11C4): sc-65981. Immunoperoxidase staining of formalin fixed, paraffin-embedded human upper stomach tissue showing cytoplasmic staining of glandular cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebral cortex tissue showing cytoplasmic and nuclear staining of neuronal cells (B).

SELECT PRODUCT CITATIONS

1. Anagnostopoulos, A.K., et al. 2011. Proteomics studies of childhood pilocytic astrocytoma. *J. Proteome Res.* 10: 2555-2565.
2. Zhang, Y., et al. 2020. Role of VIP and Sonic Hedgehog signaling pathways in mediating epithelial wound healing, sensory nerve regeneration and their defects in diabetic corneas. *Diabetes* 69: 1549-1561.

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.