**BACKGROUND**

The activation of signal transduction pathways by growth factors, hormones and neurotransmitters is mediated through two closely related MAP kinases, p44 and p42, designated extracellular-signal-related kinase 1 (ERK 1) and ERK 2, respectively. ERK proteins are regulated by dual phosphorylation at specific tyrosine and threonine sites mapping within a characteristic Thr-Glu-Tyr motif. MAP kinases requires dual phosphorylation on threonine 218 and tyrosine 220 residues in order to gain enzymatic activity. In response to activation, MAP kinases phosphorylate downstream components on serine and threonine. Upstream MAP kinase regulators include MAP kinase kinase (MEK), MEK kinase and Raf-1. The ERK family has three additional members: ERK 3, ERK 5 and ERK 6.

**CHROMOSOMAL LOCATION**

Genetic locus: MAPK7 (human) mapping to 17p11.2; Mapk7 (mouse) mapping to 11B2.

**SOURCE**

p-ERK 5 (Thr 218/Tyr 220) is available as either goat (sc-16564) or rabbit (sc-16564-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing Thr 218 and Tyr 220 phosphorylated ERK 5 of human 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-16564 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

**APPLICATIONS**

p-ERK 5 (Thr 218/Tyr 220) is recommended for detection of Thr 218 and Tyr 220 dually phosphorylated ERK 5 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

p-ERK 5 (Thr 218/Tyr 220) is also recommended for detection of correspondingly phosphorylated ERK 5 in additional species, including canine and bovine.

Suitable for use as control antibody for ERK 5 siRNA (h): sc-35339, ERK 5 siRNA (m): sc-35340, ERK 5 shRNA Plasmid (h): sc-35339-SH, ERK 5 shRNA Plasmid (m): sc-35340-SH, ERK 5 shRNA (h) Lentiviral Particles: sc-35339-V and ERK 5 shRNA (m) Lentiviral Particles: sc-35340-V.

Molecular Weight of p-ERK 1: 44 kDa.

Molecular Weight of p-ERK 2: 42 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210 or HeLa whole cell lysate: sc-2200.

**STORAGE**

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

**DATA**

Western blot analysis of ERK 5 phosphorylation in untreated (A, C) and lambda protein phosphatase treated (B, D) NIH/3T3 whole cell lysates. Antibodies tested include p-ERK 5 (Thr 218/Tyr 220)-R: sc-16564-R (A, B) and ERK 5 (C-20)-R: sc-1284-R (C, D).

**SELECT PRODUCT CITATIONS**


**RESEARCH USE**

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

**MONOS**

Satisfaction Guaranteed

**Try p-ERK 5 (36.T218/Y220): sc-135761 or p-ERK 5 (1.T218/Y220): sc-135760, our highly recommended monoclonal alternatives to p-ERK 5 (Thr 218/Tyr 220).**