p-ERK 1/2 (pT202/pY204.22A): sc-136521

**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 Tyrosine 204 and 187 and Threonine 177 and 160 residues mapping within a characteristic Thr-Glu-Tyr motif. Phosphorylation at both the Threonine 202 and Tyrosine 204 residues of ERK1 and Threonine 185 and Tyrosine 187 residues of ERK2 is required for full enzymatic activation. The structural consequences of dual-phosphorylation in the ERK2 include active site closure, alignment of key catalytic residues that interact with ATP, and remodeling of the activation loop. 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: MAPK3 (human) mapping to 16p11.2, MAPK1 (human) mapping to 22q11.21; Mapk3 (mouse) mapping to 7 F3, Mapk1 (mouse) mapping to 16 A3.

**SOURCE**

p-ERK 1/2 (pT202/pY204.22A) is a mouse monoclonal antibody raised against a short amino acid sequence containing dually Thr202 and Tyr204 phosphorylated ERK 1 of rat origin.

**PRODUCT**

Each vial contains 200 µg IgG1 kappa light chain in 1.0 ml of PBS with <0.1% sodium azide and 0.1% gelatin.

**APPLICATIONS**

p-ERK 1/2 (pT202/pY204.22A) is recommended for detection of Thr 202 and Tyr 204 dually phosphorylated ERK 1 of human origin, correspondingly Thr 203 and Tyr 205 dually phosphorylated ERK 1 of mouse and rat origin; and Thr 185 and Tyr 187 dually phosphorylated ERK 2 of human origin, correspondingly Thr 183 and Tyr 185 dually phosphorylated ERK 2 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of p-ERK 1: 44 kDa.
Molecular Weight of p-ERK 2: 42 kDa.
Positive Controls: A-431 + EGF whole cell lysate: sc-2202, 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.

**RESEARCH USE**

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

**DATA**

Molecular Weight of p-ERK 1: 44 kDa.
Molecular Weight of p-ERK 2: 42 kDa.
Positive Controls: A-431 + EGF whole cell lysate: sc-2202, NIH/3T3 whole cell lysate: sc-2210 or HeLa whole cell lysate: sc-2200.

**SELECT PRODUCT CITATIONS**


See p-ERK (E-4): sc-7383 for ERK antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647.