p44/42 MAPK (Erk1/2) (137F5) Rabbit mAb (HRP Conjugate)

For Research Use Only. Not For Use In Diagnostic Procedures.

Product Usage Information

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Storage

Supplied in 136 mM NaCl, 2.6 mM KCl, 12 mM sodium phosphate (pH 7.4) dibasic, 2 mg/ml BSA, and 50% glycerol. Store at –20°C. Do not aliquot the antibodies.

Specificity / Sensitivity

p44/42 MAP Kinase (137F5) Rabbit mAb (HRP Conjugate) detects endogenous levels of total p44/42 MAP kinase (Erk1/Erk2) protein. The antibody does not cross-react with JNK/SAPK or p38 MAP kinase.

Species Reactivity:

Human, Mouse, Rat, Hamster, Monkey, Mink, D. melanogaster, Zebrafish, Bovine, Dog, Pig, C. elegans

Species predicted to react based on 100% sequence homology:

Chicken, Dog

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of rat p44 MAP kinase.

Product Description

This Cell Signaling Technology (CST) antibody is conjugated to the carbohydrate groups of horseradish peroxidase (HRP) via its amine groups. The HRP conjugated antibody is expected to exhibit the same species cross-reactivity as the unconjugated antibody (p44/42 MAPK (Erk1/2) (137F5) Rabbit mAb #4695).

Background

Mitogen-activated protein kinases (MAPKs) are a widely conserved family of serine/threonine protein kinases involved in many cellular programs, such as cell proliferation, differentiation, motility, and death. The p44/42 MAPK (Erk1/2) signaling pathway can be activated in response to a diverse range of extracellular stimuli including mitogens, growth factors, and cytokines (1-3), and research investigators consider it an important target in the diagnosis and treatment of cancer (4). Upon stimulation, a sequential three-part protein kinase cascade is initiated, consisting of a MAP kinase kinase kinase (MAP3K), a MAP kinase kinase (MAPKKK or MAP3K), and a MAP kinase (MAPK). Multiple p44/42 MAP3Ks have been identified, including members of the Raf family, as well as Mos and Tpl2/COT. MEK1 and MEK2 are the primary MAP3Ks in this pathway (5,6). MEK1 and MEK2 activate p44 and p42 through phosphorylation of activation loop residues Thr202/Tyr204 and Thr185/Tyr187, respectively. Several downstream targets of p44/42 have been identified, including p90RSK (7) and the transcription factor Elk-1 (8,9). p44/42 are negatively regulated by a family of dual-specificity (Thr/Tyr) MAPK phosphatases, known as DUSPs or MKPs (10), along with MEK inhibitors, such as U0126 and PD98059.

IMPORTANT: For western blots, we recommend incubating the membrane with diluted antibody at 4°C with gentle shaking overnight. Please refer to the product-specific protocol for our antibody diluent recommendation.

APPLICATIONS KEY
WB: Western Blot
IP: Immunoprecipitation
IF: Immunofluorescence
IH: Immunohistochemistry
ChIP: Chromatin Immunoprecipitation
F: Flow Cytometry
ELISA-PEPTIDE

CROSS-REACTIVITY KEY
H: human
M: mouse
R: rat
Hm: hamster
Mr: monkey
Mm: mink
C: chicken
Dm: D. melanogaster
X: Xenopus
Z: zebrafish
B: bovine
D: dog
P: pig
S: S.
cerevisiae
C: C. elegans
H: horse
A: All species expected

Preparation of positive controls for western blot


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