

anti-ERK2

Cat #: HM1136
Rabbit polyclonal IgG
0.2 µg/µl, store at 4 °C

For research use only

BACKGROUND

MAP kinases act as an integration point for different extracellular cues including cytokines, growth factors, neuropeptides and stresses such as cold, heat, osmolarity changes and irradiation. MAP kinases consist of several subgroups, including the extracellular-signal related kinases (ERKs), JNK, and p38 kinases. The activation of ERK1 (44 kDa) and ERK2 (42 kDa) kinases require dual tyrosine and threonine phosphorylation at a conserved T-E-Y motif. While JNK1 is activated by dual phosphorylation at a T-P-Y motif and p38 is activated by dual phosphorylation at a T-G-Y motif. Phosphorylation at both the Thr and Tyr residues is required for full enzymatic activation. 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.

SPECIFICITY

This antibody recognizes ERK2 of human and mouse origin. It also reacts with ERK1

The antibody can be used in Western blotting, immunoprecipitation and immunostaining.

Molecular weight of ERK 2: 42 kDa.

Western blot ting positive controls: HeLa cells; NIH/3T3 cells.

IMMUNOGEN

A peptide mapping at the carboxy terminus of ERK 2 p42 of human origin.

STORAGE

This antibody is stable for 12 months when stored at 2-8°C.

REFERENCES

1. Boulton, T.G., Nye, S.H., Robbins, D.J., Ip, N.Y., Radziejewska, E., Morgenbesser, S.D., DePinho, R.A., Panayotatos, N., Cobb, M.H., and Yancopoulos, G.D. 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. Gutkind, J.S. 2000. Regulation of mitogen-activated protein kinase signaling networks by G protein-coupled receptors. *Sci. STKE* 2000: RE1. 4. Crews, C.M., Alessandrini, A., and Erikson, R.L. 1992. The primary structure of MEK, a protein kinase that phosphorylates the ERK gene product. *Science* 258: 478-480.
3. Khokhlov, A.V., Canagarajah, B., Wilsbacher, J., Robinson, M., Atkinson, M., Goldsmith, E., and Cobb, M.H. 1998. Phosphorylation of the MAP kinase ERK2 promotes its homodimerization and nuclear translocation. *Cell* 93: 605-615.
4. Haycock, J.W., Ahn, N.G., Cobb, M.H., and Krebs, E. G. 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.

5. Charest, D.L., Mordret, G., Harder, K.W., Jirik, F., and Pelech, S.L. 1993. Molecular cloning, expression, and characterization of the human mitogen-activated protein kinase p44erk1. *Mol. Cell. Biol.* 13: 4679-4690.
6. Sharma, G.D., He, J. and Bazan, H.E. (2003) p38 and ERK1/2 coordinate cellular migration and proliferation in epithelial wound healing: evidence of cross-talk activation between MAP kinase cascades. *J. Biol. Chem.* 278, 21989-21997
7. Eblen, S.T., Kumar, N.V., Shah, K., Henderson, M.J., Watts, C.K., Shokat, K.M. and Weber, M.J. (2003) Identification of novel ERK2 substrates through use of an engineered kinase and ATP analogs. *J. Biol. Chem.* 278, 14926-14935.

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