

MAP kinase p42 (FL): sc-4024

BACKGROUND

Protein kinases, characterized by their ability to phosphorylate microtubule-associated protein-2 (MAP2) and myelin basic protein (MBP), are believed to play a critical role in the transduction of signals of many receptors in response to their ligands. These are designated extracellular signal-regulated kinases (ERKs). Three members of the family, ERK 1, ERK 2 and ERK 3, have been cloned and sequenced. ERK 1 and ERK 2 are known to belong to a family of serine/threonine protein kinases whose activity is regulated by the concomitant phosphorylation of tyrosine and threonine residues in the kinase. ERK activity towards substrates such as MAP, MBP and S6 kinase II is increased by treatment of diverse cells with extracellular messengers such as Insulin, nerve growth factor and phorbol esters.

REFERENCES

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4. Thomas, G. 1992. MAP kinase by any other name smells just as sweet. *Cell* 68: 3-6.
5. Crews, C.M. and Erikson, R.L. 1992. Purification of a murine protein-tyrosine/threonine kinase that phosphorylates and activates the Erk-1 gene product: relationship to the fission yeast *byr1* gene product. *Proc. Natl. Acad. Sci. USA* 89: 8205-8209.

CHROMOSOMAL LOCATION

Genetic locus: MAPK1 (human) mapping to 22q11.21; Mapk1 (mouse) mapping to 16 A3.

SOURCE

MAP kinase p42 (FL) is expressed in *E. coli* as a 46-50 kDa polyhistidine tagged fusion protein corresponding to amino acids 1-358 representing full length MAP kinase p42 protein corresponding to amino acids 1-358 of *Xenopus* origin.

PRODUCT

MAP kinase p42 (FL) is purified from bacterial lysates (> 95%) by Ni²⁺ affinity chromatography; supplied as 50 µg purified protein in PBS containing 5 mM DTT and 50% glycerol.

Also available as a Western blotting control; 10 µg in 0.1 ml SDS-PAGE loading buffer, MAP kinase p42 (FL): sc-4024 WB.

STORAGE

Store at -20° C; stable for one year from the date of shipment.

APPLICATIONS

MAP kinase p42 (FL) is suitable as a substrate in MEK kinase assays and reacts specifically with phosphorylation of Pro-X-Ser/Thr-Pro and related consensus sequences.

MAP kinase p42 (FL) is also recommended as a Western blotting control for sc-93, sc-94 and sc-153.

SELECT PRODUCT CITATIONS

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RESEARCH USE

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