SANTA CRUZ BIOTECHNOLOGY, INC.

p-MEK-2 (Thr 394): sc-101734

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The Power to Question

BACKGROUND

A family of protein kinases located upstream of the MAP kinases and responsible for their activation has been identified. The prototype member of this family, designated MAP kinase kinase, or MEK-1, specifically phosphorylates the MAP kinase regulatory threonine and tyrosine residues present in the Thr-Glu-Tyr motif of ERK. A second MEK family member, MEK-2, resembles MEK-1 in its substrate specificity. MEK-3 (or MKK-3) functions to activate p38 MAP kinase, and MEK-4 (also called SEK1 or MKK-4) activates both p38 and JNK MAP kinases. MEK-5 appears to specifically phosphorylate ERK5, whereas MEK-6 phosphorylates p38 and p38β. MEK-7 (or MKK-7) phosphorylates and activates the JNK signal transduction pathway. Phosphorylation on Ser/Thr by MAP kinase kinase kinases (RAF or MEKK1) positively regulates the kinase activity.

REFERENCES

1. 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.
2. Wu, J., Harrison, J.K., Dent, P., Lynch, K.R., Weber, M.J. and Sturgill, T.W. 1993. Identification and characterization of a new mammalian mitogen-activated protein kinase kinase, MKK2. Mol. Cell. Biol. 13: 4539-4548.
3. Derijard, B., Raingeaud, J., Barrett, T., Wu, I.-H., Han, J., Ulevitch, R.J. and Davis, R.J. 1995. Independent human MAP-kinase signal transduction pathways defined by MEK and MKK isoforms. Science 267: 682-685.
4. Zhou, G., Bao, Z.Q. and Dixon, J.E. 1995. Components of a new human protein kinase signal transduction pathway. J. Biol. Chem. 270: 12665-12669.
5. Han, J., Lee, J.D., Jiang, Y., Li, Z., Feng, L. and Ulevitch, R.J. 1996. Characterization of the structure and function of a novel MAP kinase kinse (MKK6). J. Biol. Chem. 271: 2886-2891.
6. Jiang, Y., Chen, C., Li, Z., Guo, W., Gegner, J.A., Lin, S. and Han, J. 1996. Characterization of the structure and function of a new mitogen-activated protein kinase (p38β). J. Biol. Chem. 271: 17920-17926.
7. Tournier, C., Whitmarsh, A.J., Cavanagh, J., Barrett, T. and Davis, R.J. 1997. Mitogen-activated protein kinase kinase 7 is an activator of the c-Jun NH_2-terminal kinase. Proc. Natl. Acad. Sci. USA 94: 7337-7442.

CHROMOSOMAL LOCATION

Genetic locus: MAP2K2 (human) mapping to 19p13.3; Map2k2 (mouse) mapping to 10 C1.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

SOURCE

p-MEK-2 (Thr 394) is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Thr 394 of MEK-2 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

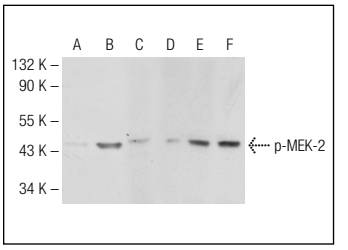
p-MEK-2 (Thr 394) is recommended for detection of Thr 394 phosphorylated MEK-2 of human and rat origin and correspondingly phosphorylated Thr 395 of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1–2 µg per 100–500 µg of total protein (1 ml of cell lysate)], immunofluorescence and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for MEK-2 siRNA (h): sc-35905, MEK-2 siRNA (m): sc-35906, MEK-2 shRNA Plasmid (h): sc-35905-SH, MEK-2 shRNA Plasmid (m): sc-35906-SH, MEK-2 shRNA (h) Lentiviral Particles: sc-35905-V and MEK-2 shRNA (m) Lentiviral Particles: sc-35906-V.

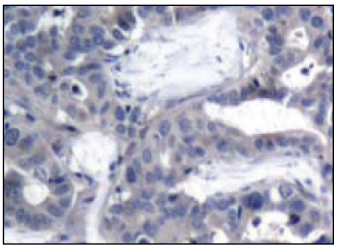
Molecular Weight of p-MEK-2: 47 kDa.

Positive Controls: SS and EGF treated HEK293 whole cell lysate, SS, EGF and lambda protein phosphatase treated HEK293 whole cell lysates or human breast carcinoma tissue.

DATA



Western blot analysis of MEK-2 phosphorylation in untreated (**A**,**D**), SS and EGF treated (**B**,**E**) and SS, EGF and lambda protein phosphatase (sc-200312A) treated (**C**,**F**) Hek 293 whole cell lysates. Antibodies tested include p-MEK-2 (Thr 394): sc-101734 (**A**,**B**,**C**) and MEK-2 (C-16): sc-525 (**D**,**E**,**F**).



p-MEK-2 (Thr 394): sc-101734. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue showing cytoplasmic and membrane staining.

RESEARCH USE

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