

Nlk (m): 293T Lysate: sc-125713

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 specific tyrosine and threonine sites mapping within a characteristic Thr-Glu-Tyr motif. Phosphorylation at both Thr 183 and Tyr 185 is required for full enzymatic activation. In response to activation, MAP kinases phosphorylate downstream components on serine and threonine. Nlk, or nemo-like kinase, is a murine homolog of the *Drosophila* nemo (nmo) gene. Nlk and Nmo have sequence homology to both the ERK MAP kinases and the cyclin dependent kinases. Nlk is a nuclear protein with the ability to autophosphorylate.

REFERENCES

1. Boulton, T.G. and Cobb, M.H. 1991. Identification of multiple extracellular signal-regulated kinases (ERKs) with antipeptide antibodies. *Cell Reg.* 2: 357-371.
2. Boulton, T.G., et al. 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.
3. Boulton, T.G., et al. 1991. Purification and properties of ERK 1, an Insulin-stimulated MAP-2 protein kinase. *Biochemistry* 30: 278-286.
4. Haycock, J.W., et al. 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. 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.
6. Crews, C.M., et al. 1992. The primary structure of MEK, a protein kinase that phosphorylates the ERK gene product. *Science* 258: 478-480.
7. Brott, B.K., et al. 1998. Nlk is a murine protein kinase related to ERK/MAP kinases and localized in the nucleus. *Proc. Natl. Acad. Sci. USA* 95: 963-968.

CHROMOSOMAL LOCATION

Genetic locus: Nlk (mouse) mapping to 11 B5.

PRODUCT

Nlk (m): 293T Lysate represents a lysate of mouse Nlk transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

APPLICATIONS

Nlk (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive Nlk antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

RESEARCH USE

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