SANTA CRUZ BIOTECHNOLOGY, INC.

p-Elk-1 (B-4): sc-8406

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Members of the Ets gene family exhibit varied patterns of tissue expression and share a highly conserved carboxy terminal domain containing a sequence related to the SV40 large T antigen nuclear localization signal sequence. This conserved domain is essential for Ets-1 binding to DNA and is likely responsible for the DNA binding activity of all members of the Ets gene family. ELK-1 is a 428 amino acid nuclear protein belonging to the Ets family. Expressed in lung and testis, ELK-1 stimulates transcription and binds to purine-rich DNA sequences. Upon mitogenic stimulation, ELK-1 is phosphorylated on C-terminal serine and threonine residues by MAPK1 (mitogen-activated protein kinase 1). Phosphorylation of ELK-1 leads to loss of SUMOylation and restores transcriptional activator activity. SUMOylation of ELK-1 results in recruitment of HDAC2 to target gene promoters, which leads to decreased histone acetylation and reduced transactivator activity.

REFERENCES

1. Ghysdael, J., et al. 1986. Identification and preferential expression in thymic and bursal lymphocytes of a c-Ets oncogene-encoded M_r 54,000 cytoplasmic protein. Proc. Natl. Acad. Sci. USA 83: 1714-1718.
2. Rao, V.N., et al. 1989. Elk, tissue-specific Ets-related genes on chromosomes X and 14 near translocation breakpoints. Science 244: 66-70.

CHROMOSOMAL LOCATION

Genetic locus: ELK1 (human) mapping to Xp11.23; Elk1 (mouse) mapping to X A1.3.

SOURCE

p-Elk-1 (B-4) is a mouse monoclonal antibody raised against a sequence containing Ser 383 phosphorylated Elk-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-8406 X, 200 µg/0.1 ml.

p-Elk-1 (B-4) is available conjugated to agarose (sc-8406 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-8406 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-8406 PE), fluorescein (sc-8406 FITC), Alexa Fluor® 488 (sc-8406 AF488), Alexa Fluor® 546 (sc-8406 AF546), Alexa Fluor® 594 (sc-8406 AF594) or Alexa Fluor® 647 (sc-8406 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-8406 AF680) or Alexa Fluor® 790 (sc-8406 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-8406 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

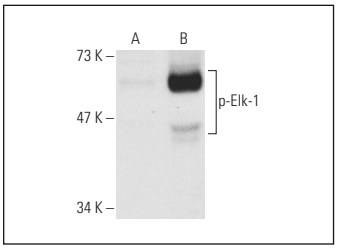
p-Elk-1 (B-4) is recommended for detection of Elk-1 phosphorylated at Ser 383 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Elk-1 siRNA (h): sc-35290, Elk-1 siRNA (m): sc-35291, Elk-1 shRNA Plasmid (h): sc-35290-SH, Elk-1 shRNA Plasmid (m): sc-35291-SH, Elk-1 shRNA (h) Lentiviral Particles: sc-35290-V and Elk-1 shRNA (m) Lentiviral Particles: sc-35291-V.

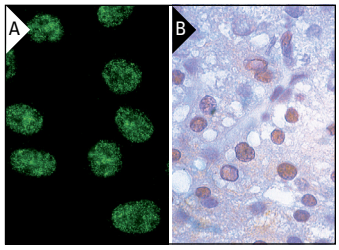
p-Elk-1 (B-4) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of p-Elk-1: 62 kDa.

DATA



p-Elk-1 (B-4): sc-8406. Western blot analysis of p-Elk-1 expression in whole cell lysates from control (**A**) and PMA-treated (**B**) HeLa cells.



p-Elk-1 (B-4): sc-8406. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human liver tissue showing nuclear localization of activated Elk-1 (**B**).

SELECT PRODUCT CITATIONS

1. Kukushkin, A., et al. 2002. Downregulation of c-Fos gene transcription in cells transformed by E1A and cHa-ras oncogenes: a role of sustained activation of MAP/ERK kinase cascade and of inactive chromatin structure at c-Fos promoter. Oncogene 21: 719-730.
2. Parikh, N., et al. 2012. Mouse tissues that undergo neoplastic progression after K-Ras activation are distinguished by nuclear translocation of phospho-Erk1/2 and robust tumor suppressor responses. Mol. Cancer Res. 10: 845-855.
3. Tzarum, N., et al. 2013. DEF pocket in p38α facilitates substrate selectivity and mediates autophosphorylation. J. Biol. Chem. 288: 19537-19547.
4. Lakhkar, A., et al. 2016. 20-HETE-induced mitochondrial superoxide and inflammatory phenotype in vascular smooth muscle is prevented by glucose-6-phosphate dehydrogenase inhibition. Am. J. Physiol. Heart Circ. Physiol. 310: H1107-H1117.

RESEARCH USE

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