

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



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  $\mu$ g IgG<sub>1</sub> 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  $\mu$ g/0.1 ml.

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

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

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## STORAGE

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

## APPLICATIONS

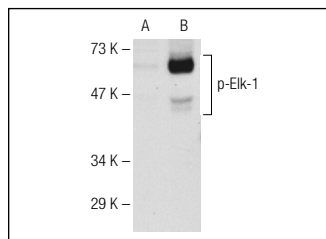
p-Elk-1 (B-4) is recommended for detection of Elk-1 phosphorylated at Ser 383 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting 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.

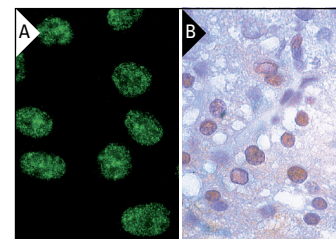
p-Elk-1 (B-4) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

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

## DATA



p-Elk-1 (B-4): sc-8406. Western blot analysis of Elk-1 phosphorylation 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. Wang, W., et al. 2013. Mediator MED23 regulates basal transcription *in vivo* via an interaction with P-TEFb. *Transcription* 4: 39-51.
3. Hennenberg, M., et al. 2013. The cAMP effector EPAC activates Elk1 transcription factor in prostate smooth muscle, and is a minor regulator of  $\alpha$ 1-adrenergic contraction. *J. Biomed. Sci.* 20: 46.
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.