SANTA CRUZ BIOTECHNOLOGY, INC.

Egr-1 (C-19): sc-189

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Egr-1, Egr-2, Egr-3 and Egr-4 are nuclear transcription factors belonging to the Egr C_2H_2-type zinc-finger protein family and containing three C_2H_2-type zinc fingers. As immediate early proteins, Egr transcription factors are rapidly induced by diverse extracellular stimuli. They are subject to tight differential control through diverse mechanisms at several levels of regulation: transcriptional; translational and posttranslational (including glycosylation, phosphorylation and redox) mechanisms; and protein-protein interaction. Egr-1 binds to the DNA sequence 5'-CGCCCCCGC-3' (Egr-site), thereby activating transcription of target genes whose products are required for mitogenesis and differentiation. Egr-2 binds specific DNA sites located in the promoter region of HoxA4. Egr-2 defects cause congenital hypo-myelination neuropathy (also designated Charcot-Marie-Tooth disease) and Dejerine-Sottas neuropathology (also designated hereditary motor and sensory neuropathy III). Egr-3 is involved in muscle spindle development and is expressed in T cells 20 minutes following activation. Egr-4 binds to the Egr consensus motif GCGTGGGCG, functions as a transcriptional repressor, and displays autoregulatory activities, down-regulating its own gene promoter in a dose dependent manner.

CHROMOSOMAL LOCATION

Genetic locus: EGR1 (human) mapping to 5q31.2; Egr1 (mouse) mapping to 18 B1.

SOURCE

Egr-1 (C-19) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of Egr-1 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.

Blocking peptide available for competition studies, sc-189 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-189 X, 200 µg/0.1 ml.

APPLICATIONS

Egr-1 (C-19) is recommended for detection of Egr-1 p82 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000). Egr-1 (C-19) is also recommended for detection of Egr-1 p82 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Egr-1 siRNA (h): sc-29303, Egr-1 siRNA (m): sc-35267, Egr-1 shRNA Plasmid (h): sc-29303-SH, Egr-1 shRNA Plasmid (m): sc-35267-SH, Egr-1 shRNA (h) Lentiviral Particles: sc-29303-V and Egr-1 shRNA (m) Lentiviral Particles: sc-35267-V.

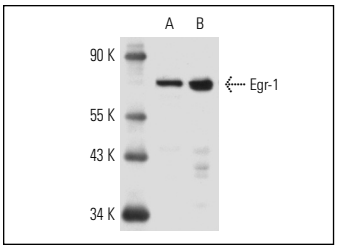
Egr-1 (C-19) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Egr-1: 82 kDa.

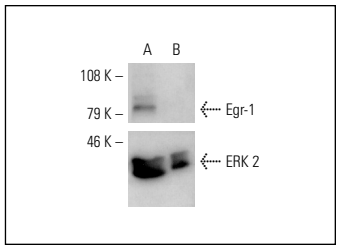
STORAGE

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

DATA



Egr-1 (C-19): sc-189. Western blot analysis of Egr-1 expression in NIH/3T3 (**A**) and HeLa (**B**) whole cell lysates.



Egr-1 siRNA (h): sc-29303. Western blot analysis of Egr-1 expression in non-transfected control (**A**) and Egr-1 siRNA transfected (**B**) EGF-treated A-431 cells. Blot probed with Egr-1 (C-19): sc-189. ERK 2 (D-2): sc-1647 used as specificity and loading control.

SELECT PRODUCT CITATIONS

1. Shao, H., et al. 1999. Slow accumulation of active mitogen-activated protein kinase during thymocyte differentiation regulates the temporal pattern of transcription factor gene expression. J. Immunol. 163: 603-610.
2. del Blanco, B., et al. 2012. Tcra enhancer activation by inducible transcription factors downstream of pre-TCR signaling. J. Immunol. 188: 3278-3293.
3. Thiel, G., et al. 2012. Transcriptional response to calcium-sensing receptor stimulation. Endocrinology 153: 4716-4728.
4. Hellstrom, I.C., et al. 2012. Maternal licking regulates hippocampal glucocorticoid receptor transcription through a thyroid hormone-serotonin-NGFI-A signalling cascade. Philos. Trans. R. Soc. Lond., B, Biol. Sci. 367: 2495-2510.
5. Kim, M.H., et al. 2013. Colon cancer progression is driven by APEX1-mediated upregulation of Jagged. J. Clin. Invest. E-published.
6. Kaufmann, A., et al. 2013. Regulation of immediate-early gene transcription following activation of $G_{\alpha q}$-coupled designer receptors. J. Cell. Biochem. 114: 681-696.
7. Herndon, C.A., et al. 2013. Neuregulin1 signaling targets SRF and CREB and activates the muscle spindle-specific gene Egr3 through a composite SRF-CREB-binding site. Exp. Cell Res. 319: 718-730.

RESEARCH USE

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