SANTA CRUZ BIOTECHNOLOGY, INC.

Egr-1 (B-6): sc-515830

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, downregulating 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 (B-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 524-543 at the C-terminus of Egr-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-515830 X, 200 µg/0.1 ml.

Egr-1 (B-6) is available conjugated to agarose (sc-515830 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515830 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515830 PE), fluorescein (sc-515830 FITC), Alexa Fluor® 488 (sc-515830 AF488), Alexa Fluor® 546 (sc-515830 AF546), Alexa Fluor® 594 (sc-515830 AF594) or Alexa Fluor® 647 (sc-515830 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515830 AF680) or Alexa Fluor® 790 (sc-515830 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-515830 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.

RESEARCH USE

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

APPLICATIONS

Egr-1 (B-6) is recommended for detection of Egr-1 p82 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

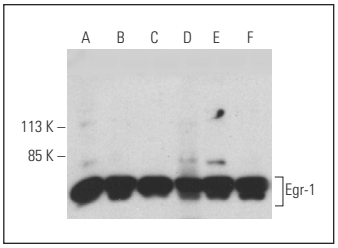
Suitable for use as control antibody for Egr-1 siRNA (h): sc-29303, Egr-1 siRNA (m): sc-35267, Egr-1 shRNA Plasmid (h): sc-29303-SH, Egr-1 shRNA Plasmid (m): sc-35267-SH, Egr-1 shRNA (h) Lentiviral Particles: sc-29303-V and Egr-1 shRNA (m) Lentiviral Particles: sc-35267-V .

Egr-1 (B-6) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

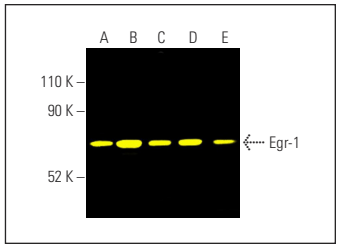
Molecular Weight of Egr-1: 82 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, A-431 nuclear extract: sc-2122 or HeLa nuclear extract: sc-2120.

DATA



Egr-1 (B-6) HRP: sc-515830 HRP. Direct western blot analysis of Egr-1 expression in A-431 (**A**), HeLa (**B**), COLO 320DM (**C**), HL-60 (**D**) and SW480 (**E**) nuclear extracts and NTERA-2 cl.D1 whole cell lysate (**F**).



Egr-1 (B-6) Alexa Fluor® 488: sc-515830 AF488. Direct fluorescent western blot analysis of Egr-1 expression in A-431 (**A**), COLO 320DM (**B**), HeLa (**C**) and SW480 (**D**) nuclear extracts and NIH/3T3 whole cell lysate (**E**). Blocked with UltraCruz® Blocking Reagent: sc-516214.

SELECT PRODUCT CITATIONS

1. Barbieri, E., et al. 2018. Targeted enhancer activation by a subunit of the integrator complex. Mol. Cell 71: 103-116.e7.
2. Lee, S.H. and Choi, D. 2022. Transforming stimulated clone 22 (TSC-22) interacts directly with bromodomain-containing protein 7 (BRD7) to enhance the inhibition of extracellular signal-regulate kinase (ERK) pathway in ovarian cancer. Dev. Reprod. 26: 117-126.
3. Chen, H., et al. 2022. The E3 ubiquitin ligase WWP2 regulates pro-fibrogenic monocyte infiltration and activity in heart fibrosis. Nat. Commun. 13: 7375.
4. Yonezawa, Y., et al. 2023. Identification of a functional susceptibility variant for adolescent idiopathic scoliosis that upregulates EGR1-mediated UNCX expression. J. Bone Miner. Res. 38: 144-153.

PROTOCOLS

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