

Egr-1 (H-250): sc-20689

BACKGROUND

Egr-1, Egr-2, Egr-3 and Egr-4 are nuclear transcription factors belonging to the Egr C₂H₂-type zinc-finger protein family and containing three C₂H₂-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'-CGCCCCGC-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 neuropathy (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.

REFERENCES

1. Beckmann, A.M., et al. 1997. Egr transcription factors in the nervous system. *Neurochem. Int.* 31: 477-510.
2. Zipfel, P.F., et al. 1997. The human zinc finger protein EGR-4 acts as autoregulatory transcriptional repressor. *Biochim. Biophys. Acta* 1354: 134-144.
3. Chen, C.C., et al. 2004. Egr-1 is activated by 17 β -estradiol in MCF-7 cells by mitogen-activated protein kinase-dependent phosphorylation of ELK-1. *J. Cell. Biochem.* 93: 1063-1074.
4. Grote, K., et al. 2004. Stretch-inducible expression of the angiogenic factor CCN1 in vascular smooth muscle cells is mediated by Egr-1. *J. Biol. Chem.* 279: 55675-55681.
5. Gaggioli, C., et al. 2005. HGF induces fibronectin matrix synthesis in melanoma cells through MAP kinase-dependent signaling pathway and induction of Egr-1. *Oncogene* 24: 1423-1433.

CHROMOSOMAL LOCATION

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

SOURCE

Egr-1 (H-250) is a rabbit polyclonal antibody raised against amino acids 1-250 of Egr-1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

Egr-1 (H-250) is recommended for detection of Egr-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 (H-250) is also recommended for detection of Egr-1 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 (H-250) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Egr-1: 82 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132, A-431 nuclear extract: sc-2122 or NIH/3T3 whole cell lysate: sc-2210.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Kenichi, A., et al. 2004. Regulation of platelet-derived growth factor-A chain by Krüppel-like factor 5. *J. Biol. Chem.* 279: 70-76.
2. Lal, G., et al. 2009. Epigenetic regulation of FOXP3 expression in regulatory T cells by DNA methylation. *J. Immunol.* 182: 259-273.

RESEARCH USE

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


 MONOS
 Satisfation
 Guaranteed

Try **Egr-1 (S-25): sc-101033** or **Egr-1 (8A6): sc-293180**, our highly recommended monoclonal alternatives to Egr-1 (H-250).