

Egr-1 (S-25): sc-101033

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. Egr proteins are subject to tight differential control through diverse mechanisms at several levels of regulation including transcriptional, translational and post-translational (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 hypomyelination 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 (S-25) is a mouse monoclonal antibody raised against recombinant Egr-1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Egr-1 (S-25) 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), 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 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.

Molecular Weight Egr-1: 58 kDa.

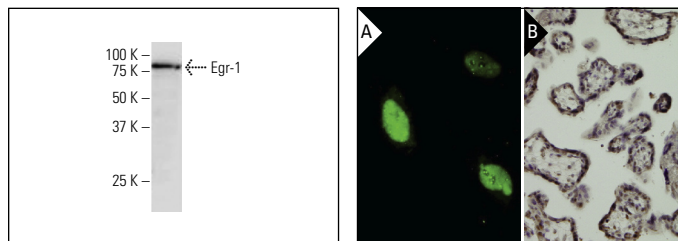
Molecular Weight of phosphorylated Egr-1: 82 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, HeLa whole cell lysate: sc-2200 or NIH/3T3 whole cell lysate: sc-2210.

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 (S-25): sc-101033. Western blot analysis of Egr-1 expression in Raw 264.7 whole cell lysate.

Egr-1 (S-25): sc-101033. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing nuclear localization (A). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human placenta tissue showing nuclear localization (B).

SELECT PRODUCT CITATIONS

- Chen, H., et al. 2010. Egr-1 regulates Ho-1 expression induced by cigarette smoke. *Biochem. Biophys. Res. Commun.* 396: 388-393.
- Uramoto, H., et al. 2011. Expression of selected gene for acquired drug resistance to EGFR-TKI in lung adenocarcinoma. *Lung Cancer* 73: 361-365.
- Dyson, O.F., et al. 2012. Resveratrol inhibits KSHV reactivation by lowering the levels of cellular EGR-1. *PLoS ONE* 7: e33364.
- Amodeo, V., et al. 2013. Effects of anti-miR-182 on TSP-1 expression in human colon cancer cells: there is a sense in antisense? *Expert Opin. Ther. Targets* 17: 1249-1261.
- Bannon, M.J., et al. 2014. A molecular profile of cocaine abuse includes the differential expression of genes that regulate transcription, chromatin, and dopamine cell phenotype. *Neuropsychopharmacology* 39: 2191-2199.
- Song, Y., et al. 2015. Early growth response-1 facilitates enterovirus 71 replication by direct binding to the viral genome RNA. *Int. J. Biochem. Cell Biol.* 62: 36-46.
- Collombet, S., et al. 2017. Logical modeling of lymphoid and myeloid cell specification and transdifferentiation. *Proc. Natl. Acad. Sci. USA* 114: 5792-5799.
- Li, Q., et al. 2019. Sleep deprivation of rats increases postsurgical expression and activity of L-type calcium channel in the dorsal root ganglion and slows recovery from postsurgical pain. *Acta Neuropathol. Commun.* 7: 217.
- Zhu, Q., et al. 2021. MIR106A-5p upregulation suppresses autophagy and accelerates malignant phenotype in nasopharyngeal carcinoma. *Autophagy* 17: 1667-1683.

RESEARCH USE

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