SANTA CRUZ BIOTECHNOLOGY, INC.

Egr-2 (G-9): sc-518117

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Egr proteins function in transcription regulatory activities surrounding cellular growth, differentiation and function. The deduced amino acid sequences of human Egr-2 and mouse Egr-1 are 92% identical in the zinc finger region but show no homology elsewhere. Egr-2 is a sequence-specific DNA-binding transcription factor that binds two specific DNA sites located in the promoter region of HOXA4 and localizes to the nucleus. Defects in the Egr-2 protein are a cause of congenital hypomyelination neuropathy (CHN). CHN is characterized clinically by early onset of hypotonia, areflexia, distal muscle weakness, and very slow nerve conduction velocities. Mutations in the gene that encodes Egr-2 (EGR2) also cause Dejerine-Sottas syndrome (DSS), which is also known as Dejerine-Sottas neuropathy (DSN) or hereditary motor and sensory neuropathy III (HMSN3). DSS patients exhibit severe early onset motor and sensory neuropathy with very slow nerve conduction velocities and elevated cerebrospinal fluid protein concentrations.

REFERENCES

1. Joseph, L.J., et al. 1988. Molecular cloning, sequencing, and mapping of EGR2, a human early growth response gene encoding a protein with "zinc-binding finger" structure. Proc. Natl. Acad. Sci. USA 85: 7164-7168.
2. Chavrier, P., et al. 1989. Structure, chromosome location, and expression of the mouse zinc finger gene Krox-20: multiple gene products and coregulation with the proto-oncogene c-Fos. Mol. Cell. Biol. 9: 787-797.
3. Timmerman, V., et al. 1999. Novel missense mutation in the early growth response 2 gene associated with Dejerine-Sottas syndrome phenotype. Neurology 52: 1827-1832.
4. Boerkoel, C.F., et al. 2001. EGR2 mutation R359W causes a spectrum of Dejerine-Sottas neuropathy. Neurogenetics 3: 153-157.

CHROMOSOMAL LOCATION

Genetic locus: EGR2 (human) mapping to 10q21.3.

SOURCE

Egr-2 (G-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 232-250 of Egr-2 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.

Egr-2 (G-9) is available conjugated to agarose (sc-518117 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-518117 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518117 PE), fluorescein (sc-518117 FITC), Alexa Fluor® 488 (sc-518117 AF488), Alexa Fluor® 546 (sc-518117 AF546), Alexa Fluor® 594 (sc-518117 AF594) or Alexa Fluor® 647 (sc-518117 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-518117 AF680) or Alexa Fluor® 790 (sc-518117 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Egr-2 (G-9) is recommended for detection of Egr-2 of 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-2 siRNA (h): sc-37827, Egr-2 shRNA Plasmid (h): sc-37827-SH and Egr-2 shRNA (h) Lentiviral Particles: sc-37827-V.

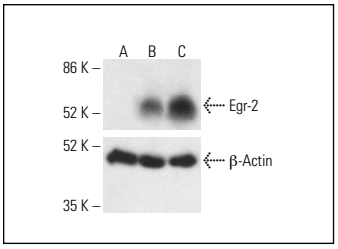
Molecular Weight of Egr-2: 50 kDa.

Positive Controls: chemically-treated HCT-116 whole cell lysate or Egr-2 (h): 293T Lysate: sc-115134.

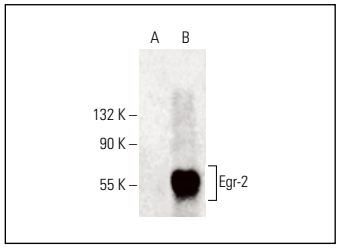
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Egr-2 (G-9): sc-518117. Western blot analysis of Egr-2 expression in untreated (**A**) and chemically-treated (**B**, **C**) HCT-116 whole cell lysates. β-Actin (C4): sc-47778 used as loading control. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.



Egr-2 (G-9): sc-518117. Western blot analysis of Egr-2 expression in non-transfected: sc-117752 (**A**) and human Egr-2 transfected: sc-115134 (**B**) 293T whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.

SELECT PRODUCT CITATIONS

1. Ying, Y., et al. 2021. EGR2-mediated regulation of m^6A reader IGF2BP proteins drive RCC tumorigenesis and metastasis via enhancing S1PR3 mRNA stabilization. Cell Death Dis. 12: 750.

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.