SANTA CRUZ BIOTECHNOLOGY, INC.

SIM2L (C-17): sc-8716

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Per-Arnt-Sim (PAS) domain was identified as a 270 amino acid motif that mediates associations between various PAS family transcription factors. Several PAS domain family members have been identified including AhR, Arnt 1, and single-minded proteins (SIM1 and SIM2). The aromatic (aryl) hydrocarbon receptor, AhR, is a ligand dependent transcription factor that interacts with specific DNA sequences termed xenobiotic responsive elements (XREs) to activate several genes including CYP1A1, glutathione S-transferase Ya subunit and DT-diaphorase. The Ah receptor nuclear translocator protein 1 (Arnt 1) is required for ligand-dependent nuclear translocation of the Ah receptor and is also necessary for Ah receptor binding to the XRE element. Both SIM1 and SIM2 inhibit AhR/Arnt dimerization, thus inhibiting transcriptional activation. The SIM genes are thought to be involved in the directing and regionalization of tissues during development and the SIM2 gene, which is located on chromosome 21, is a candidate for the gene responsible for Down syndrome.

CHROMOSOMAL LOCATION

Genetic locus: SIM2 (human) mapping to 21q22.13; Sim2 (mouse) mapping to 16 C4.

SOURCE

SIM2L (C-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of SIM2L of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-8716 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-8716 X, 200 µg/0.1 ml.

APPLICATIONS

SIM2L (C-17) is recommended for detection of SIM2L 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 SIM2 siRNA (h): sc-38177, SIM2 siRNA (m): sc-38178, SIM2 shRNA Plasmid (h): sc-38177-SH, SIM2 shRNA Plasmid (m): sc-38178-SH, SIM2 shRNA (h) Lentiviral Particles: sc-38177-V and SIM2 shRNA (m) Lentiviral Particles: sc-38178-V.

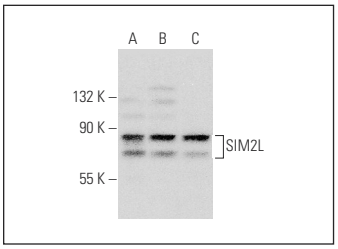
SIM2L (C-17) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Positive Controls: HeLa nuclear extract: sc-2120, Jurkat nuclear extract: sc-2132 or K-562 nuclear extract: sc-2130.

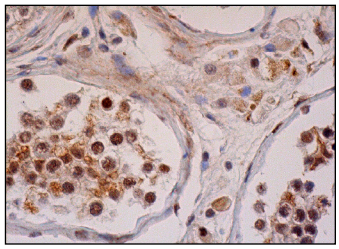
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



SIM2L (C-17): sc-8716. Western blot analysis of SIM2L expression in HeLa (**A**), Jurkat (**B**) and K-562 (**C**) nuclear extracts.



SIM2L (C-17): sc-8716. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing nuclear and cytoplasmic staining of cells in seminiferous ducts and Leydig cells.

SELECT PRODUCT CITATIONS

1. Shim, K.S., et al. 2003. Aberrant protein expression of transcription factors BACH1 and ERG, both encoded on chromosome 21, in brains of patients with Down syndrome and Alzheimer's disease. J. Neural Transm. Suppl. 67: 39-49.
2. Ferrando-Miguel, R., et al. 2003. Overexpression of transcription factor BACH1 in fetal Down syndrome brain. J. Neural Transm. Suppl. 67: 193-205.
3. Li, C.M., et al. 2004. CTNNB1 mutations and overexpression of Wnt/β-catenin target genes in WT1-mutant Wilms' Tumors. Am. J. Pathol. 165: 1943-1953.
4. Woods, S., et al. 2008. The bHLH/Per-Arnt-Sim transcription factor SIM2 regulates muscle transcript myomesin2 via a novel, non-canonical E-box sequence. Nucleic Acids Res. 36: 3716-3727.

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.