SANTA CRUZ BIOTECHNOLOGY, INC.

$SIM2_S$ (C-15): sc-8715

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.

SOURCE

$SIM2_S$ (C-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of $SIM2_S$ 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-8715 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-8715 X, 200 µg/0.1 ml.

RESEARCH USE

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

APPLICATIONS

$SIM2_S$ (C-15) is recommended for detection of $SIM2_S$ of 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) 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 shRNA Plasmid (h): sc-38177-SH and SIM2 shRNA (h) Lentiviral Particles: sc-38177-V.

$SIM2_S$ (C-15) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

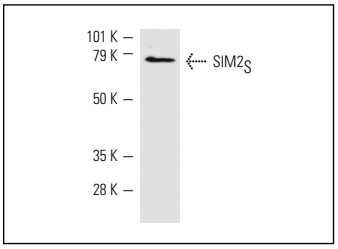
Molecular Weight of $SIM2_S$: 70 kDa.

Positive Controls: FHs 173We cell lysate: sc-2417.

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.

DATA



$SIM2_S$ (C-15): sc-8715. Western blot analysis of $SIM2_S$ expression in FHs 173We whole cell lysate.

SELECT PRODUCT CITATIONS

1. Halvorsen, O.J., et al. 2007. Increased expression of $SIM2_S$ protein is a novel marker of aggressive prostate cancer. Clin. Cancer Res. 13: 892-897.
2. Kwak, H.I., et al. 2007. Inhibition of breast cancer growth and invasion by single-minded 2s. Carcinogenesis 28: 259-266.
3. Lu, B., et al. 2011. The role of the transcription factor SIM2 in prostate cancer. PLoS ONE 6: e28837.

STORAGE

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

PROTOCOLS

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