SANTA CRUZ BIOTECHNOLOGY, INC.

Six1 (B-8): sc-514441



BACKGROUND

The Six proteins (sine oculis) are a family of homeodomain transcription factors that share a conserved DNA binding domain. Six2, Six4 (AREC3) and Six5 bind to the same DNA sequence, indicating that they may regulate the same target genes. Six1 and Sx4 are both capable of transactivating MEF3 site containing reporter genes, such as myogenin. It has been demonstrated that alterations to homeobox-containing genes may result in cancer. Six1 expression has been shown to be absent or low in normal adult tissues, although it is expressed in several tumor types, including breast carcinoma. Six1 overexpression has been shown to abrogate the G_2 cell cycle checkpoint.

CHROMOSOMAL LOCATION

Genetic locus: SIX1 (human) mapping to 14q23.1; Six1 (mouse) mapping to 12 C3.

SOURCE

Six1 (B-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 251-274 near the C-terminus of Six1 of human origin.

PRODUCT

Each vial contains 200 μg lgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-514441 X, 200 μg /0.1 ml.

Six1 (B-8) is available conjugated to agarose (sc-514441 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514441 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514441 PE), fluorescein (sc-514441 FITC), Alexa Fluor[®] 488 (sc-514441 AF488), Alexa Fluor[®] 546 (sc-514441 AF546), Alexa Fluor[®] 594 (sc-514441 AF594) or Alexa Fluor[®] 647 (sc-514441 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-514441 AF680) or Alexa Fluor[®] 790 (sc-514441 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514441 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Six1 (B-8) is recommended for detection of Six1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for Six1 siRNA (h): sc-38784, Six1 siRNA (m): sc-38785, Six1 shRNA Plasmid (h): sc-38784-SH, Six1 shRNA Plasmid (m): sc-38785-SH, Six1 shRNA (h) Lentiviral Particles: sc-38784-V and Six1 shRNA (m) Lentiviral Particles: sc-38785-V.

Six1 (B-8) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Six1: 37 kDa.

STORAGE

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

DATA





Six1 (B-8): sc-514441. Western blot analysis of Six1 expression in RT-4 (A), A-673 (B), BC_3H1 (C) and L6 (D) whole cell lysates.

Six1 (B-8): sc-514441. Western blot analysis of Six1 expression in non-transfected: sc-117752 ($\bf A$) and mouse Six1 transfected: sc-123562 ($\bf B$) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

- 1. Wei, D.W., et al. 2017. NRF1 and ZSCAN10 bind to the promoter region of the Six1 gene and their effects body measurements in Qinchuan cattle. Sci. Rep. 7: 7867.
- Wei, D.W., et al. 2017. Characterization of the promoter region of the bovine Six1 gene: roles of MyoD, PAX7, CREB and MyoG. Sci. Rep. 7: 12599.
- 3. Wei, D., et al. 2018. Transcriptional regulation by CpG sites methylation in the core promoter region of the bovine Six1 gene: roles of Histone H4 and E2F2. Int. J. Mol. Sci. 19: 213.
- Jin, Y., et al. 2021. Six1 activation is involved in cell proliferation, migration, and anti-inflammation of acute ischemia/reperfusion injury in mice. Front. Mol. Biosci. 8: 725319.
- Li, B., et al. 2022. NIK-Six1 signalling axis regulates high glucose-induced endothelial cell dysfunction and inflammation. Autoimmunity 55: 86-94.
- Lee, J.A., et al. 2024. Whey peptide alleviates muscle atrophy by strongly regulating myocyte differentiation in mice. Medicina 60: 433.

RESEARCH USE

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

PROTOCOLS

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

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