

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 Six4 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 G₂ 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 IgG_{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 µg 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 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 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.

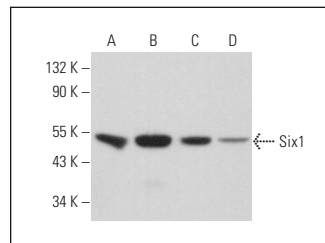
Six1 (B-8) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Six1: 37 kDa.

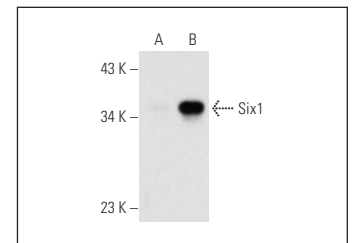
RECOMMENDED SUPPORT REAGENTS

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



Six1 (B-8): sc-514441. Western blot analysis of Six1 expression in RT-4 (A), A-673 (B), BC₃H1 (C) and L6 (D) whole cell lysates.



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

SELECT PRODUCT CITATIONS

- 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.
- 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.

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.

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