SANTA CRUZ BIOTECHNOLOGY, INC.

Six2 (H-4): sc-377193

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 G_2 cell cycle checkpoint. Six2 is highly expressed in fetal tissues but expression is limited in adult tissues.

CHROMOSOMAL LOCATION

Genetic locus: SIX2 (human) mapping to 2p21; Six2 (mouse) mapping to 17 E4.

SOURCE

Six2 (H-4) is a mouse monoclonal antibody raised against amino acids 191-230 mapping within an internal region of Six2 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. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-377193 X, 200 µg/0.1 ml.

Six2 (H-4) is available conjugated to agarose (sc-377193 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377193 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377193 PE), fluorescein (sc-377193 FITC), Alexa Fluor® 488 (sc-377193 AF488), Alexa Fluor® 546 (sc-377193 AF546), Alexa Fluor® 594 (sc-377193 AF594) or Alexa Fluor® 647 (sc-377193 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377193 AF680) or Alexa Fluor® 790 (sc-377193 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Six2 (H-4) is recommended for detection of Six2 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 Six2 siRNA (h): sc-38786, Six2 siRNA (m): sc-38787, Six2 shRNA Plasmid (h): sc-38786-SH, Six2 shRNA Plasmid (m): sc-38787-SH, Six2 shRNA (h) Lentiviral Particles: sc-38786-V and Six2 shRNA (m) Lentiviral Particles: sc-38787-V.

Six2 (H-4) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

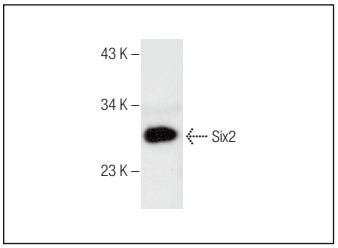
Molecular Weight of Six2: 32 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, Sol8 nuclear extract: sc-2157 or mouse kidney extract: sc-2255.

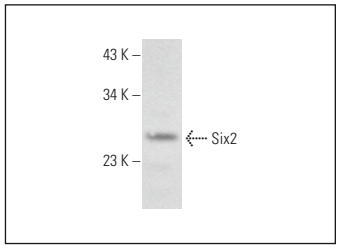
RECOMMENDED SUPPORT REAGENTS

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



Six2 (H-4): sc-377193. Western blot analysis of Six2 expression in Sol8 nuclear extract.



Six2 (H-4): sc-377193. Western blot analysis of Six2 expression in NIH/3T3 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Xu, J., et al. 2014. Tbx18 is essential for normal development of vasculature network and glomerular mesangium in the mammalian kidney. Dev. Biol. 391: 17-31.
2. Gao, J., et al. 2020. MES23.5 DA immortalized neuroblastoma cells self-protect against early injury by overexpressing glial cell-derived neurotrophic factor via Akt1/Eya1/Six2 signaling. J. Mol. Neurosci. 70: 328-339.
3. Chang, Y., et al. 2020. MiRNA-516a promotes bladder cancer metastasis by inhibiting MMP9 protein degradation via the Akt/FOXO3A/SMURF1 axis. Clin. Transl. Med. 10: e263.
4. Zhang, C.T., et al. 2023. Dephosphorylation of Six2Y129 protects tyrosine hydroxylase-positive cells in SNpc by regulating TEA domain 1 expression. iScience 26: 107049.

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.

PROTOCOLS

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