SANTA CRUZ BIOTECHNOLOGY, INC.

Six3 (A-1): sc-398797

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Six proteins (sine oculis) are a family of homeodomain transcription factors that share a conserved DNA binding domain. Six3 is required for the specification and proliferation of the eye field in vertebrates and may be involved in some developmental disorders of the brain. Expression of Six3 is detected in human embryos as early as five to seven weeks of gestation, and is maintained in the eye throughout the entire period of fetal development. At 20 weeks of gestation, expression of Six3 in the human retina has been observed in ganglion cells and in cells of the inner nuclear layer. Six3 maps to human chromosome 2p21, between genetic markers D2S119 and D2S288. The map position of human Six3 overlaps the positions of two dominant disorders (holoprosencephaly type 2 and Malattia leventinese) with ocular phenotypes that have been assigned to this chromosomal region.

CHROMOSOMAL LOCATION

Genetic locus: SIX3 (human) mapping to 2p21; Six3 (mouse) mapping to 17 E4.

SOURCE

Six3 (A-1) is a mouse monoclonal antibody raised against amino acids 269-327 mapping near the C-terminus of Six3 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-398797 X, 200 µg/0.1 ml.

Six3 (A-1) is available conjugated to agarose (sc-398797 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398797 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398797 PE), fluorescein (sc-398797 FITC), Alexa Fluor® 488 (sc-398797 AF488), Alexa Fluor® 546 (sc-398797 AF546), Alexa Fluor® 594 (sc-398797 AF594) or Alexa Fluor® 647 (sc-398797 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398797 AF680) or Alexa Fluor® 790 (sc-398797 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Six3 (A-1) is recommended for detection of Six3 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 Six3 siRNA (h): sc-38788, Six3 siRNA (m): sc-38789, Six3 shRNA Plasmid (h): sc-38788-SH, Six3 shRNA Plasmid (m): sc-38789-SH, Six3 shRNA (h) Lentiviral Particles: sc-38788-V and Six3 shRNA (m) Lentiviral Particles: sc-38789-V.

Six3 (A-1) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

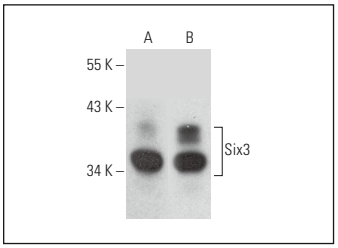
Molecular Weight of Six3: 37 kDa.

Positive Controls: RPE-J cell lysate: sc-24771, IMR-32 cell lysate: sc-2409 or Y79 cell lysate: sc-2240.

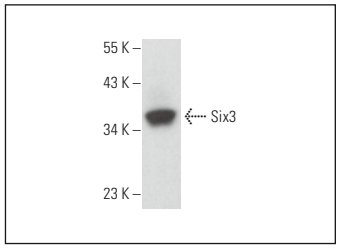
RECOMMENDED SUPPORT REAGENTS

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



Six3 (A-1): sc-398797. Western blot analysis of Six3 expression in Y79 (**A**) and RPE-J (**B**) whole cell lysates.



Six3 (A-1): sc-398797. Western blot analysis of Six3 expression in IMR-32 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Xu, Z., et al. 2018. SP8 and SP9 coordinately promote D2-type medium spiny neuron production by activating Six3 expression. Development 145: dev165456.
2. Zhang, Z., et al. 2019. Zfhx3 is required for the differentiation of late born D1-type medium spiny neurons. Exp. Neurol. 322: 113055.
3. Song, X., et al. 2021. Homeobox gene Six3 is required for the differentiation of D2-type medium spiny neurons. Neurosci. Bull. 37: 985-998.
4. Sears, K.E., et al. 2022. Controlling neural territory patterning from pluripotency using a systems developmental biology approach. iScience 25: 104133.
5. Liu, W., et al. 2023. PQBP1 regulates striatum development through balancing striatal progenitor proliferation and differentiation. Cell Rep. 42: 112277.

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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