SANTA CRUZ BIOTECHNOLOGY, INC.

Six4 (D-5): sc-390779

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Six (sine oculis) proteins are a family of homeodomain transcription factors that share a conserved DNA-binding domain and are human homologs of the *Drosophila* sine oculis (so) protein. Six4 (sine oculis homeobox homolog 4), also known as AREC3, is a 760 amino acid nuclear protein that belongs to the Six/Sine oculis homeobox family. Expressed in a developmentally regulated manner, Six4 is thought to be involved in myogenesis and neurogenesis, as well as in the development of many other organs. Six4 contains one Six domain (which functions as a homeobox DNA-binding motif) and shares 90% sequence similarity with its mouse counterpart, suggesting that both proteins have similar DNA-binding properties.

CHROMOSOMAL LOCATION

Genetic locus: SIX4 (human) mapping to 14q23.1; Six4 (mouse) mapping to 12 C3.

SOURCE

Six4 (D-5) is a mouse monoclonal antibody raised against amino acids 482-781 mapping at the C-terminus of Six4 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-390779 X, 200 µg/0.1 ml.

Six4 (D-5) is available conjugated to agarose (sc-390779 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390779 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390779 PE), fluorescein (sc-390779 FITC), Alexa Fluor® 488 (sc-390779 AF488), Alexa Fluor® 546 (sc-390779 AF546), Alexa Fluor® 594 (sc-390779 AF594) or Alexa Fluor® 647 (sc-390779 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390779 AF680) or Alexa Fluor® 790 (sc-390779 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Six4 (D-5) is recommended for detection of Six4 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 Six4 siRNA (h): sc-38790, Six4 siRNA (m): sc-38791, Six4 shRNA Plasmid (h): sc-38790-SH, Six4 shRNA Plasmid (m): sc-38791-SH, Six4 shRNA (h) Lentiviral Particles: sc-38790-V and Six4 shRNA (m) Lentiviral Particles: sc-38791-V.

Six4 (D-5) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

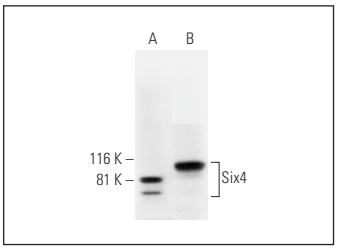
Molecular Weight of Six4: 81 kDa.

Positive Controls: NIH/3T3 nuclear extract: sc-2138 or HeLa nuclear extract: sc-2120.

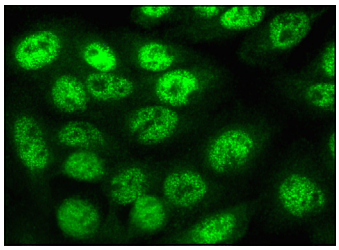
RECOMMENDED SUPPORT REAGENTS

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



Six4 (D-5): sc-390779. Western blot analysis of Six4 expression in NIH/3T3 (**A**) and HeLa (**B**) nuclear extracts.



Six4 (D-5): sc-390779. Immunofluorescence staining of formalin-fixed SW480 cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Wei, D., et al. 2018. Characterization of the promoter region of bovine Six4: Roles of E-box and MyoD in the regulation of basal transcription. Biochem. Biophys. Res. Commun. 496: 44-50.
2. Wang, J., et al. 2019. Disabling of nephrogenesis in porcine embryos via CRISPR/Cas9-mediated Six1 and Six4 gene targeting. Xenotransplantation 26: e12484.

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.