

Six6 (C-20): sc-25070

BACKGROUND

The SIX proteins (sine oculis) are a family of homeodomain transcription factors that share a conserved DNA binding domain. Two of these family members Six3 and Six6 (also designated Optx2 and Six9) are required for the specification and proliferation of the eye field in vertebrates, and, therefore, are the vertebrate homologues most closely related to the *Drosophila sine oculis* protein, which has an essential role in controlling compound eye development. Six3 and Six6 expression largely overlap during development of specific tissues, such as retina, hypothalamus and pituitary. The human Six6 gene maps to chromosome 14q23.1. Haploinsufficiency of Six6 may cause several developmental disorders, including bilateral anophthalmia and pituitary anomalies. The gene encoding the human Six3 protein maps to chromosome 2p21, a region associated with holoprosencephaly type 2 (HPE2). Deletion of Six3 may be associated with HPE2 disorder, a common, severe malformation of the brain that results from incomplete cleavage of the forebrain during early embryogenesis.

REFERENCES

1. Kawakami, K., et al. 1996. Identification and expression of six family genes in mouse retina. *FEBS Lett.* 393: 259-263.
2. Gallardo, M.E., et al. 1999. Genomic cloning and characterization of the human homeobox gene SIX6 reveals a cluster of SIX genes in chromosome 14 and associates SIX6 hemizyosity with bilateral anophthalmia and pituitary anomalies. *Genomics* 61: 82-91.
3. Leppert, G.S., et al. 1999. Sequence and location of SIX3, a homeobox gene expressed in the human eye. *Ophthalmic Genet.* 20: 7-21.
4. Lopez-Rios, J., et al. 1999. Six9 (Optx2), a new member of the six gene family of transcription factors, is expressed at early stages of vertebrate ocular and pituitary development. *Mech. Dev.* 83: 155-159.

CHROMOSOMAL LOCATION

Genetic locus: SIX6 (human) mapping to 14q23.1; Six6 (mouse) mapping to 12 C3.

SOURCE

Six6 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Six6 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-25070 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-25070 X, 200 µg/0.1 ml.

STORAGE

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

APPLICATIONS

Six6 (C-20) is recommended for detection of Six6 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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 Six6 siRNA (h): sc-38792, Six6 siRNA (m): sc-38793, Six6 shRNA Plasmid (h): sc-38792-SH, Six6 shRNA Plasmid (m): sc-38793-SH, Six6 shRNA (h) Lentiviral Particles: sc-38792-V and Six6 shRNA (m) Lentiviral Particles: sc-38793-V.

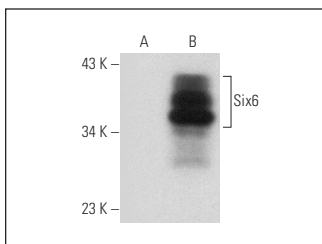
Six6 (C-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Positive Controls: Six6 (h): 293T Lysate : sc-370065.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Six6 (C-20): sc-25070. Western blot analysis of Six6 expression in non-transfected: sc-117752 (A) and human Six6 transfected: sc-370065 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Tchoghandjian, A., et al. 2009. Pilocytic astrocytoma of the optic pathway: a tumour deriving from radial glia cells with a specific gene signature. *Brain* 132: 1523-1535.

RESEARCH USE

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