

Six2 (NB-A37): sc-135560

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. Six2 is highly expressed in fetal tissues but expression is limited in adult tissues.

REFERENCES

1. Cillo, C. 1994. HOX genes in human cancers. *Invasion Metastasis* 14: 38-49.
2. Paules, R.S., et al. 1995. Defective G₂ checkpoint function in cells from individuals with familial cancer syndromes. *Cancer Res.* 55: 1763-1773.
3. Kawakami, K., et al. 1996. Identification and expression of six family genes in mouse retina. *FEBS Lett.* 393: 259-263.
4. Davey, S., et al. 1998. Fission yeast rad12⁺ regulates cell cycle checkpoint control and is homologous to the Bloom's syndrome disease gene. *Mol. Cell. Biol.* 18: 2721-2728.
5. Ford, H.L., et al. 1998. Abrogation of the G₂ cell cycle checkpoint associated with overexpression of HSIX1: a possible mechanism of breast carcinogenesis. *Proc. Natl. Acad. Sci. USA* 95: 12608-12613.
6. Spitz, F., et al. 1998. Expression of myogenin during embryogenesis is controlled by Six/sine oculis homeoproteins through a conserved MEF3 binding site. *Proc. Natl. Acad. Sci. USA* 95: 14220-14225.

CHROMOSOMAL LOCATION

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

SOURCE

Six2 (NB-A37) is a mouse monoclonal antibody raised against recombinant Six2 protein of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

PROTOCOLS

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

APPLICATIONS

Six2 (NB-A37) is recommended for detection of Six2 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)] 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.

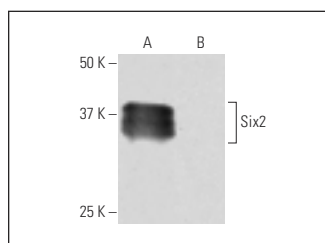
Molecular Weight of Six2: 32 kDa.

Positive Controls: human Six2 transfected 293T whole cell lysate.

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).

DATA



Six2 (NB-A37): sc-135560. Western blot analysis of Six2 expression in human Six2 transfected (A) and non-transfected (B) 293T whole cell lysates.

RESEARCH USE

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