

## Six2 (C-13): sc-67834

### 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<sub>2</sub> cell cycle checkpoint. Six2 is highly expressed in fetal tissues but expression is limited in adult tissues.

### REFERENCES

- Cillo, C. 1994. HOX genes in human cancers. *Invasion Metastasis* 14: 38-49.
- Paules, R.S., et al. 1995. Defective G<sub>2</sub> checkpoint function in cells from individuals with familial cancer syndromes. *Cancer Res.* 55: 1763-1773.
- Kawakami, K., et al. 1996. Identification and expression of six family genes in mouse retina. *FEBS Lett.* 393: 259-263.
- Davey, S., et al. 1998. Fission yeast Rad12<sup>+</sup> regulates cell cycle checkpoint control and is homologous to the Bloom's syndrome disease gene. *Mol. Cell. Biol.* 18: 2721-2728.
- Ford, H.L., et al. 1998. Abrogation of the G<sub>2</sub> cell cycle checkpoint associated with overexpression of hSix1: a possible mechanism of breast carcinogenesis. *Proc. Natl. Acad. Sci. USA* 95: 12608-12613.
- 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 (C-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Six2 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. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-67834 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-67834 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### 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](http://www.scbt.com) or our catalog for detailed protocols and support products.

### APPLICATIONS

Six2 (C-13) is recommended for detection of Sine oculis homeobox homolog 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Six2 (C-13) is also recommended for detection of Sine oculis homeobox homolog 2 in additional species, including equine, canine, bovine, porcine and avian.

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 (C-13) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Six2: 32 kDa.

Positive Controls: mouse kidney extract: sc-2255.

### 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) 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.

### RESEARCH USE

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


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Try **Six2 (H-4): sc-377193** or **Six2 (NB-A37): sc-135560**, our highly recommended monoclonal alternatives to Six2 (C-13).