

Six4 (G-16): sc-55766

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.

REFERENCES

1. Kawakami, K., et al. 1996. Structure, function and expression of a murine homeobox protein AREC3, a homologue of *Drosophila* sine oculis gene product, and implication in development. *Nucleic Acids Res.* 24: 303-310.
2. Ohto, H., et al. 1998. Tissue and developmental distribution of Six family gene products. *Int. J. Dev. Biol.* 42: 141-148.
3. Ozaki, H., et al. 1999. Structure and chromosome mapping of the human SIX4 and murine Six4 genes. *Cytogenet. Cell Genet.* 87: 108-112.
4. Ozaki, H., et al. 2001. Six4, a putative myogenin gene regulator, is not essential for mouse embryonal development. *Mol. Cell. Biol.* 21: 3343-3350.
5. Ando, Z., et al. 2005. Slc12a2 is a direct target of two closely related homeobox proteins, Six1 and Six4. *FEBS J.* 272: 3026-3041.
6. Grifone, R., et al. 2005. Six1 and Six4 homeoproteins are required for Pax3 and Mrf expression during myogenesis in the mouse embryo. *Development* 132: 2235-2249.
7. Konishi, Y., et al. 2006. Six1 and Six4 promote survival of sensory neurons during early trigeminal gangliogenesis. *Brain Res.* 1116: 93-9102.
8. Clark, I.B., et al. 2007. Live imaging of *Drosophila* gonad formation reveals roles for Six4 in regulating germline and somatic cell migration. *BMC Dev. Biol.* 7: 52.

CHROMOSOMAL LOCATION

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

SOURCE

Six4 (G-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Six4 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-55766 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-55766 X, 200 µg/0.1 ml.

APPLICATIONS

Six4 (G-16) is recommended for detection of Six4 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).

Six4 (G-16) is also recommended for detection of Six4 in additional species, including equine, canine, bovine and porcine.

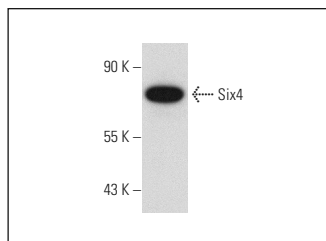
Suitable for use as control antibody for Six4 siRNA (h): sc-38790, Six4 siRNA (m): sc-38791, Six4 shRNA Plasmid (h): sc-38790-SH, Six4 shRNA Plasmid (m): sc-38791-SH, Six4 shRNA (h) Lentiviral Particles: sc-38790-V and Six4 shRNA (m) Lentiviral Particles: sc-38791-V.

Six4 (G-16) 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.

DATA



Six4 (G-16): sc-55766. Western blot analysis of Six4 expression in NIH/3T3 nuclear extract.

SELECT PRODUCT CITATIONS

1. Meng, Z.X., et al. 2013. Baf60c drives glycolytic metabolism in the muscle and improves systemic glucose homeostasis through Deptor-mediated Akt activation. *Nat. Med.* 19: 640-645.

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.



Try **Six4 (D-5): sc-390779** or **Six4 (34-M): sc-81984**, our highly recommended monoclonal alternatives to Six4 (G-16).