

Six4 (34-M): sc-81984

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.

CHROMOSOMAL LOCATION

Genetic locus: SIX4 (human) mapping to 14q23.1.

SOURCE

Six4 (34-M) is a mouse monoclonal antibody raised against recombinant Six4 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.

APPLICATIONS

Six4 (34-M) is recommended for detection of Six4 of 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 Six4 siRNA (h): sc-38790, Six4 shRNA Plasmid (h): sc-38790-SH and Six4 shRNA (h) Lentiviral Particles: sc-38790-V.

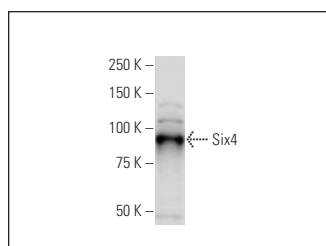
Molecular Weight of Six4: 81 kDa.

Positive Controls: HeLa nuclear extract: sc-2120.

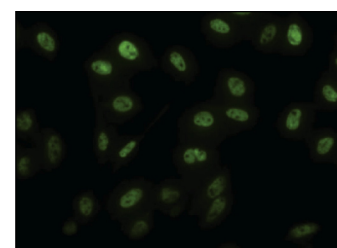
RECOMMENDED SUPPORT REAGENTS

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 (34-M): sc-81984. Western blot analysis of Six4 expression in HeLa nuclear extract.



Six4 (34-M): sc-81984. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Sun, X., et al. 2019. Six4 activates Akt and promotes tumor angiogenesis. *Exp. Cell Res.* 383: 111495.
2. Sun, X., et al. 2020. Six4 promotes metastasis through STAT3 activation in breast cancer. *Am. J. Cancer Res.* 10: 224-236.
3. Zhu, S., et al. 2020. Long non-coding RNA HOXA11-AS upregulates Cyclin D2 to inhibit apoptosis and promote cell cycle progression in nephroblastoma by recruiting forkhead box P2. *Am. J. Cancer Res.* 10: 284-298.

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.