

# Six5 (H-300): sc-134925

## BACKGROUND

Six5 (homeobox protein SIX5), also known as SIX5, BOR2 or DMAHP (DM locus-associated homeodomain protein), is a transcription factor that is expressed in various structures of the adult eye. Localized to the cytoplasm in early development and to the nucleus in the later stages of development, Six5 is involved in regulation of organogenesis and in maintenance of retinal formation. Six5 is able to bind the 5'-TCA[AG][AG]TTNC-3' DNA sequence found in the myogenin and IGFBP5 promoters and, through this binding, can control transcription of the associated mRNA. Six5 is regulated via association with DACH1 (dachshund homolog 1) and is co-activated by the EYA (eyes absent) proteins. Defects in the gene encoding Six5 are the cause of branchio-oto-renal syndrome type 2 (BOR2), an autosomal disorder characterized by hearing loss, a deep overbite and myopia. Two isoforms exist due to alternative splicing events.

## REFERENCES

1. Sarkar, P.S., Paul, S., Han, J. and Reddy, S. 2004. Six5 is required for spermatogenic cell survival and spermiogenesis. *Hum. Mol. Genet.* 13: 1421-1431.
2. Eriksson, M. 2004. Real-time RT-PCR for CTG repeat-containing genes. *Methods Mol. Biol.* 277: 77-84.
3. Sarkar, P.S., Han, J. and Reddy, S. 2004. *In situ* hybridization analysis of Dmpk mRNA in adult mouse tissues. *Neuromuscul. Disord.* 14: 497-506.
4. Grifone, R., Demignon, J., Houbroun, C., Souil, E., Niro, C., Seller, M.J., Hamard, G. and Maire, P. 2005. Six1 and Six4 homeoproteins are required for Pax3 and Mrf expression during myogenesis in the mouse embryo. *Development* 132: 2235-2249.
5. Pham, Y.C., Man, N., Holt, I., Sewry, C.A., Pall, G., Johnson, K. and Morris, G.E. 2005. Characterisation of the transcription factor, SIX5, using a new panel of monoclonal antibodies. *J. Cell. Biochem.* 95: 990-1001.
6. Personius, K.E., Nautiyal, J. and Reddy, S. 2005. Myotonia and muscle contractile properties in mice with SIX5 deficiency. *Muscle Nerve* 31: 503-505.

## CHROMOSOMAL LOCATION

Genetic locus: SIX5 (human) mapping to 19q13.32, Six5 (mouse) mapping to 7 A3.

## SOURCE

Six5 (H-300) is a rabbit polyclonal antibody raised against amino acids 440-739 mapping at the C-terminus of Six5 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.

## STORAGE

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

## APPLICATIONS

Six5 (H-300) is recommended for detection of Six5 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).

Six5 (H-300) is also recommended for detection of Six5 in additional species, including bovine.

Suitable for use as control antibody for Six5 siRNA (h): sc-63034, Six5 siRNA (m): sc-63035, Six5 shRNA Plasmid (h): sc-63034-SH, Six5 shRNA Plasmid (m): sc-63035-SH, Six5 shRNA (h) Lentiviral Particles: sc-63034-V and Six5 shRNA (m) Lentiviral Particles: sc-63035-V.

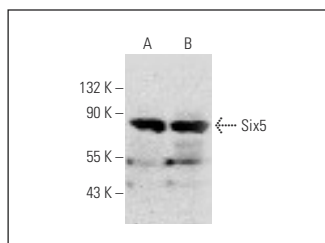
Molecular Weight of Six5: 75 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or K-562 whole cell lysate: sc-2203.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



Six5 (H-300): sc-134925. Western blot analysis of Six5 expression in K-562 (A) and Jurkat (B) whole cell lysates.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.