

# VAX1 (P-21): sc-134146

## BACKGROUND

The homeobox DNA-binding domain is a 60 amino acid motif that is conserved among many species and functions to bind DNA via a helix-turn-helix structure, thereby playing a role in transcriptional regulation and the control of gene expression. VAX1 (ventral anterior homeobox 1) is a 334 amino acid protein that localizes to the nucleus and contains one homeobox DNA-binding domain. Expressed as multiple alternatively spliced isoforms, VAX1 is required for major tract formation and axon guidance in the developing brain and may play a role in the differentiation of various structures, including the optic stalk, the neuroretina and the pigmented epithelium. The gene encoding VAX1 maps to human chromosome 10, which houses over 1,200 genes and comprises nearly 4.5% of the human genome.

## REFERENCES

- Hallonet, M., Hollemann, T., Wehr, R., Jenkins, N.A., Copeland, N.G., Pieler, T. and Gruss, P. 1998. VAX1 is a novel homeobox-containing gene expressed in the developing anterior ventral forebrain. *Development* 125: 2599-2610.
- Bertuzzi, S., Hindges, R., Mui, S.H., O'Leary, D.D. and Lemke, G. 1999. The homeodomain protein VAX1 is required for axon guidance and major tract formation in the developing forebrain. *Genes Dev.* 13: 3092-3105.
- Hallonet, M., Hollemann, T., Pieler, T. and Gruss, P. 1999. VAX1, a novel homeobox-containing gene, directs development of the basal forebrain and visual system. *Genes Dev.* 13: 3106-3114.
- Barbieri, A.M., Lupo, G., Bulfone, A., Andreazzoli, M., Mariani, M., Fougerousse, F., Consalez, G.G., Borsani, G., Beckmann, J.S., Barsacchi, G., Ballabio, A. and Banfi, S. 1999. A homeobox gene, VAX2, controls the patterning of the eye dorsoventral axis. *Proc. Natl. Acad. Sci. USA* 96: 10729-10734.
- Mui, S.H., Kim, J.W., Lemke, G. and Bertuzzi, S. 2005. VAX genes ventralize the embryonic eye. *Genes Dev.* 19 1249-1259.
- Online Mendelian Inheritance in Man, OMIM™. 2005. Johns Hopkins University, Baltimore, MD. MIM Number: 604294. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Holland, P.W., Booth, H.A. and Bruford, E.A. 2007. Classification and nomenclature of all human homeobox genes. *BMC Biol.* 5: 47.

## CHROMOSOMAL LOCATION

Genetic locus: Vax1 (mouse) mapping to 19 D3.

## SOURCE

VAX1 (P-21) is an affinity purified rabbit polyclonal antibody raised against synthetic VAX1 peptide of mouse origin.

## 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.

## PRODUCT

Each vial contains 50 µg IgG in 500 µl PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

## APPLICATIONS

VAX1 (P-21) is recommended for detection of VAX1 of mouse, rat and zebrafish 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).

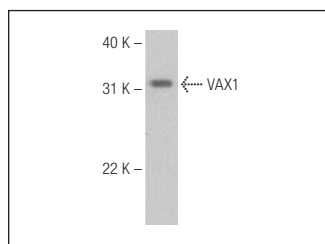
Suitable for use as control antibody for VAX1 siRNA (m): sc-155096, VAX1 shRNA Plasmid (m): sc-155096-SH and VAX1 shRNA (m) Lentiviral Particles: sc-155096-V.

Molecular Weight of VAX1: 35 kDa.

## 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).

## DATA



VAX1 (P-21): sc-134146. Western blot analysis of VAX1 expression in Vax1 whole cell lysate.

## PROTOCOLS

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