

DBX1 (N-14): sc-240290

BACKGROUND

DBX1 (developing brain homeobox 1) is a 343 amino acid member of the H2.0 homeobox protein family. Localized to the nucleus, DBX1 contains one homeobox DNA-binding domain. DBX1 is thought to play a role in patterning the central nervous system during embryogenesis. DBX1 is also involved in the regulation of the distinct phenotypic features that distinguish two major classes of ventral interneurons, designated V0 and V1 neurons. DBX1 regulates the neurotransmitter phenotype, transcription factor profile, intraspinal migratory path and axonal trajectory of V0 neurons, which distinguishes them from V1 neurons. The gene that encodes DBX1 maps to human chromosome 11, which makes up around 4% of human genomic DNA and is considered a gene and disease association dense chromosome.

REFERENCES

1. Pierani, A., Moran-Rivard, L., Sunshine, M.J., Littman, D.R., Goulding, M. and Jessell, T.M. 2001. Control of interneuron fate in the developing spinal cord by the progenitor homeodomain protein Dbx1. *Neuron* 29: 367-384.
2. Grossfeld, P.D., Mattina, T., Lai, Z., Favier, R., Jones, K.L., Cotter, F. and Jones, C. 2004. The 11q terminal deletion disorder: a prospective study of 110 cases. *Am. J. Med. Genet. A* 129: 51-61.
3. Taylor, T.D., Noguchi, H., Totoki, Y., Toyoda, A., Kuroki, Y., Dewar, K., Lloyd, C., Itoh, T., Takeda, T., Kim, D.W., She, X., Barlow, K.F., Bloom, T., Bruford, E., Chang, J.L., Cuomo, C.A., et al. 2006. Human chromosome 11 DNA sequence and analysis including novel gene identification. *Nature* 440: 497-500.
4. Lacin, H., Zhu, Y., Wilson, B.A. and Skeath, J.B. 2009. dbx mediates neuronal specification and differentiation through cross-repressive, lineage-specific interactions with eve and hb9. *Development* 136: 3257-3266.
5. Gray, P.A., Hayes, J.A., Ling, G.Y., Llona, I., Tupal, S., Picardo, M.C., Ross, S.E., Hirata, T., Corbin, J.G., Eugenin, J. and Del Negro, C.A. 2010. Developmental origin of preBötzinger complex respiratory neurons. *J. Neurosci.* 30: 14883-14895.

CHROMOSOMAL LOCATION

Genetic locus: DBX1 (human) mapping to 11p15.1; Dbx1 (mouse) mapping to 7 B5.

SOURCE

DBX1 (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of DBX1 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-240290 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-240290 X, 200 µg/0.1 ml.

APPLICATIONS

DBX1 (N-14) is recommended for detection of DBX1 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); non cross-reactive with DBX2.

DBX1 (N-14) is also recommended for detection of DBX1 in additional species, including bovine.

Suitable for use as control antibody for DBX1 siRNA (h): sc-96428, DBX1 siRNA (m): sc-142885, DBX1 shRNA Plasmid (h): sc-96428-SH, DBX1 shRNA Plasmid (m): sc-142885-SH, DBX1 shRNA (h) Lentiviral Particles: sc-96428-V and DBX1 shRNA (m) Lentiviral Particles: sc-142885-V.

DBX1 (N-14) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of DBX1: 37 kDa.

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.

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 or our catalog for detailed protocols and support products.