

Barhl1 (KA.25): sc-130465

BACKGROUND

Drosophila gene BarH1 contains a homeobox required for external sensory organ fate determination. Homeobox proteins are regulators of place-dependent morphogenesis and play important roles in controlling the expression patterns of cell adhesion molecules. Barhl1 (BarH-like-1) is hypothesized to play a similar role in mouse and human development. *In situ* hybridization of mouse tissues at various stages of development demonstrate that Barhl1 expression is limited to restricted domains of the developing central nervous system, in particular the diencephalon and rhombencephalon. In the developing CNS, the expression of Barhl1 in migrating cells gives rise to the cerebellar external granular layer.

REFERENCES

1. Bulfone, A., et al. 2000. Barhl1, a gene belonging to a new subfamily of mammalian homeobox genes, is expressed in migrating neurons of the CNS. *Hum. Mol. Genet.* 9: 1443-1452.
2. Blair, I.P., et al. 2002. Search for genes involved in Joubert syndrome: evidence that one or more major loci are yet to be identified and exclusion of candidate genes EN1, EN2, FGF8, and BARHL1. *Am. J. Med. Genet.* 107: 190-196.
3. Li, S., et al. 2004. Barhl1 regulates migration and survival of cerebellar granule cells by controlling expression of the neurotrophin-3 gene. *J. Neurosci.* 24: 3104-3114.
4. Gould, D.B., et al. 2004. Mutational analysis of BARHL1 and BARX1 in three new patients with Joubert syndrome. *Am. J. Med. Genet. A* 131A: 205-208.
5. Sud, R., et al. 2005. Transcriptional regulation by Barhl1 and Brn-3c in organ-of-Corti-derived cell lines. *Brain Res. Mol. Brain Res.* 141: 174-180.
6. Offner, N., et al. 2005. The pro-apoptotic activity of a vertebrate Bar-like homeobox gene plays a key role in patterning the *Xenopus* neural plate by limiting the number of chordin- and Shh-expressing cells. *Development* 132: 1807-1818.
7. Lopes, C., et al. 2006. BARHL1 homeogene, the human ortholog of the mouse Barhl1 involved in cerebellum development, shows regional and cellular specificities in restricted domains of developing human central nervous system. *Biochem. Biophys. Res. Commun.* 339: 296-304.
8. Colombo, A., et al. 2006. Zebrafish BarH-like genes define discrete neural domains in the early embryo. *Gene Expr. Patterns* 6: 347-352.
9. Rachidi, M., et al. 2006. Differential transcription of Barhl1 homeobox gene in restricted functional domains of the central nervous system suggests a role in brain patterning. *Int. J. Dev. Neurosci.* 24: 35-44.

CHROMOSOMAL LOCATION

Genetic locus: BARHL1 (human) mapping to 9q34.13; Barhl1 (mouse) mapping to 2 A3.

SOURCE

Barhl1 (KA.25) is a mouse monoclonal antibody raised against recombinant Barhl1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Barhl1 (KA.25) is recommended for detection of Barhl1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for Barhl1 siRNA (h): sc-62008, Barhl1 siRNA (m): sc-62009, Barhl1 shRNA Plasmid (h): sc-62008-SH, Barhl1 shRNA Plasmid (m): sc-62009-SH, Barhl1 shRNA (h) Lentiviral Particles: sc-62008-V and Barhl1 shRNA (m) Lentiviral Particles: sc-62009-V.

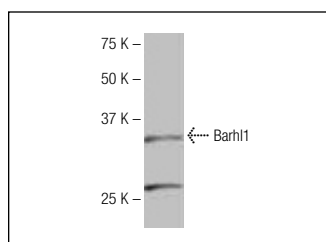
Molecular Weight of Barhl1: 35 kDa.

Positive Controls: PC-12 cell lysate: sc-2250, mouse brain extract: sc-2253, or IMR-32 cell lysate: sc-2409.

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, 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



Barhl1 (KA.25): sc-130465. Western blot analysis of Barhl1 expression in PC-12 whole cell lysate.

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.