SANTA CRUZ BIOTECHNOLOGY, INC.

BHLHB4 (N-12): sc-85300

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The Power to Question

BACKGROUND

BHLHB4 (basic helix-loop-helix domain containing, class B, 4), also known as BETA4, is a 225 amino acid protein that contains one basic helix-loop-helix (bHLH) domain, a motif that mediates protein dimerization and can bind to the E-box sequence of DNA. Localized to the nucleus, BHLHB4 is thought to function as a transcriptional repressor that may be required for the maintenance of neuronal and pancreatic cells. Addtionally, BHLHB4 may participate in the maturation of rod bipolar cells, suggesting an involvement in retinal development. The gene encoding BHLHB4 maps to human chromosome 20, which houses over 600 genes and comprises nearly 2% of the human genome.

REFERENCES

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4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 609331. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Bramblett, D.E., Pennesi, M.E., Wu, S.M. and Tsai, M.J. 2004. The transcription factor Bhlhb4 is required for rod bipolar cell maturation. Neuron 43: 779-793.
6. Pennesi, M.E., Bramblett, D.E., Cho, J.H., Tsai, M.J. and Wu, S.M. 2006. A role for bHLH transcription factors in retinal degeneration and dysfunction. Adv. Exp. Med. Biol. 572: 155-161.
7. Pang, J.J., Abd-El-Barr, M.M., Gao, F., Bramblett, D.E., Paul, D.L. and Wu, S.M. 2007. Relative contributions of rod and cone bipolar cell inputs to AII amacrine cell light responses in the mouse retina. J. Physiol. 580: 397-410.

CHROMOSOMAL LOCATION

Genetic locus: BHLHE23 (human) mapping to 20q13.33; Bhlhe23 (mouse) mapping to 2 H4.

SOURCE

BHLHB4 (N-12) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the N-terminus of BHLHB4 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-85300 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

BHLHB4 (N-12) is recommended for detection of BHLHB4 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).

Suitable for use as control antibody for BHLHB4 siRNA (h): sc-105120, BHLHB4 siRNA (m): sc-141695, BHLHB4 shRNA Plasmid (h): sc-105120-SH, BHLHB4 shRNA Plasmid (m): sc-141695-SH, BHLHB4 shRNA (h) Lentiviral Particles: sc-105120-V and BHLHB4 shRNA (m) Lentiviral Particles: sc-141695-V.

Molecular Weight of BHLHB4: 30 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) 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.

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.