SANTA CRUZ BIOTECHNOLOGY, INC.

Barhl2 siRNA (m): sc-62011

BACKGROUND

BarH2 is a homeobox containing protein required for the fate determination of external sensory organs in *Drosophila*. Barhl2 (BarH-like 2 homeobox protein), also known as MBH1 in rat (mammalian homolog of BarH), is highly related to BarH2. It is a member of the BAR homeobox family of highly conserved proteins and contains one homeobox DNA-binding domain. Barhl2 localizes to the nucleus and is expressed in the central nervous system as well as in mature and differentiating amacrine, horizontal and ganglion cells of the retina. Barhl2 plays a role in regulating the specification of glycinergic amacrine cells and controls horizontal cell differentiation. Barhl2 may also be involved in the regulation of neural basic helix-loop-helix genes.

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. Lim, J., et al. 2003. Bar homeodomain proteins are anti-proneural in the *Drosophila* eye: transcriptional repression of atonal by Bar prevents ectopic retinal neurogenesis. Development 130: 5965-5974.
3. Mo, Z., et al. 2004. Role of the Barhl2 homeobox gene in the specification of glycinergic amacrine cells. Development 131: 1607-1618.
4. Poggi, L., et al. 2004. The homeobox gene Xbh1 cooperates with proneural genes to specify ganglion cell fate within the *Xenopus* neural retina. Development 131: 2305-2315.
5. 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.
6. Saba, R., et al. 2005. Commissural neuron identity is specified by a homeodomain protein, Mbh1, that is directly downstream of Math1. Development 132: 2147-2155.
7. Olson, L.E., et al. 2005. Barx2 functions through distinct corepressor classes to regulate hair follicle remodeling. Proc. Natl. Acad. Sci. USA 102: 3708-3713.

CHROMOSOMAL LOCATION

Genetic locus: Barhl2 (mouse) mapping to 5 E5.

PRODUCT

Barhl2 siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Barhl2 shRNA Plasmid (m): sc-62011-SH and Barhl2 shRNA (m) Lentiviral Particles: sc-62011-V as alternate gene silencing products.

For independent verification of Barhl2 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-62011A, sc-62011B and sc-62011C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Barhl2 siRNA (m) is recommended for the inhibition of Barhl2 expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Barhl2 gene expression knockdown using RT-PCR Primer: Barhl2 (m)-PR: sc-62011-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

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.