

# KLHL17 siRNA (h): sc-88478

## BACKGROUND

The BTB (broad-complex, tramtrack and bric a brac) domain, also known as the POZ (poxvirus and zinc finger) domain, is an N-terminal homodimerization domain that contains multiple copies of kelch repeats and/or C<sub>2</sub>H<sub>2</sub>-type zinc fingers. Proteins that contain BTB domains are thought to be involved in transcriptional regulation via control of chromatin structure and function. KLHL17 (kelch-like protein 17) is a 642 amino acid protein containing a BACK (BTB/Kelch associated) domain, a BTB (POZ) domain, and six kelch repeats. Expressed in brain, KLHL17 interacts with F-Actin, and may function in Actin-based neuronal function. KLHL17 interacts with PDZK1, which is essential for the integrity of Actin cytoskeletons, as well as SYNGAP1, KLHL17 and NMDA receptors. The gene encoding KLHL17 maps to human chromosome 1p36.33 and mouse chromosome 4 E2.

## REFERENCES

1. Albagli, O., Dhordain, P., Deweindt, C., Lecocq, G. and Leprince, D. 1995. The BTB/POZ domain: a new protein-protein interaction motif common to DNA- and Actin-binding proteins. *Cell Growth Differ.* 6: 1193-1198.
2. Adams, J., Kelso, R. and Cooley, L. 2000. The kelch repeat superfamily of proteins: propellers of cell function. *Trends Cell Biol.* 10: 17-24.
3. Braybrook, C., Warry, G., Howell, G., Arnason, A., Bjornsson, A., Moore, G.E., Ross, M.T. and Stanier, P. 2001. Identification and characterization of KLHL4, a novel human homologue of the *Drosophila* Kelch gene that maps within the X-linked cleft palate and ankyloglossia (CPX) critical region. *Genomics* 72: 128-136.
4. Braybrook, C., Warry, G., Howell, G., Mandryko, V., Arnason, A., Bjornsson, A., Ross, M.T., Moore, G.E. and Stanier, P. 2001. Physical and transcriptional mapping of the X-linked cleft palate and ankyloglossia (CPX) critical region. *Hum. Genet.* 108: 537-545.
6. Prag, S. and Adams, J.C. 2003. Molecular phylogeny of the kelch-repeat superfamily reveals an expansion of BTB/kelch proteins in animals. *BMC Bioinformatics* 4: 42.
7. Stogios, P.J. and Prive, G.G. 2004. The BACK domain in BTB-kelch proteins. *Trends Biochem. Sci.* 29: 634-637.

## CHROMOSOMAL LOCATION

Genetic locus: KLHL17 (human) mapping to 1p36.33.

## PRODUCT

KLHL17 siRNA (h) 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see KLHL17 shRNA Plasmid (h): sc-88478-SH and KLHL17 shRNA (h) Lentiviral Particles: sc-88478-V as alternate gene silencing products.

For independent verification of KLHL17 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-88478A, sc-88478B and sc-88478C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

KLHL17 siRNA (h) is recommended for the inhibition of KLHL17 expression in human 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  $\mu$ M in 66  $\mu$ l. 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.

## GENE EXPRESSION MONITORING

KLHL17 (H-7): sc-514593 is recommended as a control antibody for monitoring of KLHL17 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor KLHL17 gene expression knockdown using RT-PCR Primer: KLHL17 (h)-PR: sc-88478-PR (20  $\mu$ l). 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](http://www.scbt.com) for detailed protocols and support products.