

# KLHL1 (N-18): sc-79553

## BACKGROUND

KLHL1 (kelch-like protein 1) is a 748 amino acid protein that is the homolog of the *Drosophila* kelch protein. Localized to the cytoskeleton, KLHL1 contains six kelch repeats and one BTB (POZ) domain. The BTB (broad-complex, tram-track 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. KLHL1 is highly expressed in brain where it acts as an actin-organization protein, possibly playing a role in the modulation of neurite outgrowth. KLHL1 expression has been shown to be downregulated by spinocerebellar ataxia type 8 (SCA8) protein, which then leads to SCA8 neuropathogenesis, a disease that is characterized by limb and truncal ataxia, ataxic dysarthria and horizontal nystagmus.

## REFERENCES

1. Nemes, J.P., Benzow, K.A., Moseley, M.L., Ranum, L.P. and Koob, M.D. 2000. The SCA8 transcript is an antisense RNA to a brain-specific transcript encoding a novel actin-binding protein (KLHL1). *Hum. Mol. Genet.* 9: 1543-1551.
2. Melnick, A., Ahmad, K.F., Arai, S., Polinger, A., Ball, H., Borden, K.L., Carlile, G.W., Prive, G.G. and Licht, J.D. 2000. In-depth mutational analysis of the promyelocytic leukemia zinc finger BTB/POZ domain reveals motifs and residues required for biological and transcriptional functions. *Mol. Cell Biol.* 20: 6550-6567.
3. Adams, J., Kelso, R. and Cooley, L. 2000. The kelch repeat superfamily of proteins: propellers of cell function. *Trends Cell Biol.* 10: 17-24.
4. 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.
5. He, Y., Zu, T., Benzow, K.A., Orr, H.T., Clark, H.B. and Koob, M.D. 2006. Targeted deletion of a single SCA8 ataxia locus allele in mice causes abnormal gait, progressive loss of motor coordination, and Purkinje cell Dendritic deficits. *J. Neurosci.* 26: 9975-9982.
6. Seng, S., Avraham, H.K., Jiang, S., Venkatesh, S. and Avraham, S. 2006. KLHL1/MRP2 mediates neurite outgrowth in a glycogen synthase kinase 3 $\beta$ -dependent manner. *Mol. Cell Biol.* 26: 8371-8384.
7. Jiang, S., Seng, S., Avraham, H.K., Fu, Y. and Avraham, S. 2007. Process elongation of oligodendrocytes is promoted by the kelch-related protein MRP2/KLHL1. *J. Biol. Chem.* 282: 12319-12329.

## CHROMOSOMAL LOCATION

Genetic locus: KLHL1 (human) mapping to 13q21.33; Klhl1 (mouse) mapping to 14 E2.1.

## SOURCE

KLHL1 (N-18) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of KLHL1 of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-79553 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

KLHL1 (N-18) is recommended for detection of KLHL1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], 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).

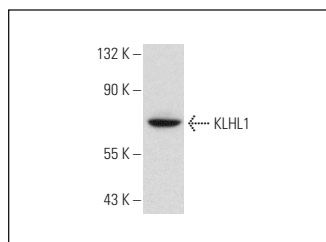
KLHL1 (N-18) is also recommended for detection of KLHL1 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for KLHL1 siRNA (h): sc-75393, KLHL1 siRNA (m): sc-75394, KLHL1 shRNA Plasmid (h): sc-75393-SH, KLHL1 shRNA Plasmid (m): sc-75394-SH, KLHL1 shRNA (h) Lentiviral Particles: sc-75393-V and KLHL1 shRNA (m) Lentiviral Particles: sc-75394-V.

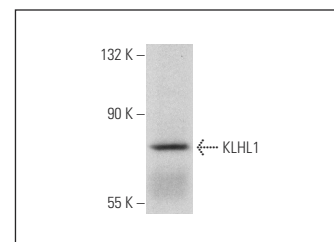
Molecular Weight of KLHL1: 83 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or HL-60 whole cell lysate: sc-2209.

## DATA



KLHL1 (N-18): sc-79553. Western blot analysis of KLHL1 expression in HeLa whole cell lysate.



KLHL1 (N-18): sc-79553. Western blot analysis of KLHL1 expression in HL-60 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.

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Try **KLHL1 (3A8B3): sc-517225**, our highly recommended monoclonal alternative to KLHL1 (N-18).