

PDLIM5 siRNA (h): sc-76097

BACKGROUND

PDLIM5 (PDZ and LIM domain 5), also known as L9, ENH (Enigma homolog), LIM or ENH1, is a member of the Enigma family of proteins. Proteins belonging to this family contain an N-terminal PDZ (post-synaptic density-95/discs large/zone occludens-1) domain and one to three C-terminal LIM domains that typically associate with various isoforms of PKC (protein kinase C). Expressed in a wide variety of tissues, PDLIM5 contains three LIM zinc-binding domains and one PDZ domain. In the brain, PDLIM5 colocalizes with synaptic vesicles of neurotransmitters and regulates neuronal calcium signaling through an interaction with PKC ϵ and N-type Ca^{++} CP $\alpha 1\text{B}$ (N-type calcium channel $\alpha 1\text{B}$ subunit). Expression of PDLIM5 is often increased in the brain of patients with schizophrenia, major depression and bipolar disorder. This suggests that PDLIM5 may contribute to the genetic susceptibility of such conditions.

REFERENCES

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2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605904. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Wu, M., et al. 2004. Cloning and identification of a novel human gene PDLIM5, a homolog of AD-associated neuronal thread protein (AD7c-NTP). *DNA Seq.* 15: 144-147.
4. Kato, T., et al. 2005. Gene expression and association analyses of LIM (PDLIM5) in bipolar disorder and schizophrenia. *Mol. Psychiatry* 10: 1045-1055.
5. Iga, J., et al. 2006. Gene expression and association analysis of LIM (PDLIM5) in major depression. *Neurosci. Lett.* 400: 203-207.
6. Horiuchi, Y., et al. 2006. A polymorphism in the PDLIM5 gene associated with gene expression and schizophrenia. *Biol. Psychiatry* 59: 434-439.
7. Numata, S., et al. 2007. Gene expression in the peripheral leukocytes and association analysis of PDLIM5 gene in schizophrenia. *Neurosci. Lett.* 415: 28-33.

CHROMOSOMAL LOCATION

Genetic locus: PDLIM5 (human) mapping to 4q22.3.

PRODUCT

PDLIM5 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 μM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PDLIM5 shRNA Plasmid (h): sc-76097-SH and PDLIM5 shRNA (h) Lentiviral Particles: sc-76097-V as alternate gene silencing products.

For independent verification of PDLIM5 (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-76097A, sc-76097B and sc-76097C.

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

PDLIM5 siRNA (h) is recommended for the inhibition of PDLIM5 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 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.

GENE EXPRESSION MONITORING

PDLIM5 (G-2): sc-515621 is recommended as a control antibody for monitoring of PDLIM5 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 κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PDLIM5 gene expression knockdown using RT-PCR Primer: PDLIM5 (h)-PR: sc-76097-PR (20 μl , 419 bp). Annealing temperature for the primers should be $55-60^{\circ}\text{C}$ and the extension temperature should be $68-72^{\circ}\text{C}$.

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.