SANTA CRUZ BIOTECHNOLOGY, INC.

PL6 siRNA (h): sc-78005

BACKGROUND

Transmembrane proteins contain transmembrane domains that are usually characterized by α-helical structures. Transmembrane proteins exist as themodynamically stable hetero- and homodimers that interact with the lipid bilayer and are involved in both material exchange and communication between the cell and the environment. PL6, also referred to as TMEM115 (transmembrane protein 115) or PP6 (placental protein 6), is a 351 amino acid multi-pass membrane protein that is highly expressed in kidney and skeletal muscle, with lower levels of expression detected in liver, placenta, prancreas, lung, heart and brain. PL6 contains one phosphoserine residue and several transmembrane domains, suggesting that it may participate in protein exchange and signaling events between cells.

REFERENCES

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3. Engelman, D.M., Chen, Y., Chin, C.N., Curran, A.R., Dixon, A.M., Dupuy, A.D., Lee, A.S., Lehnert, U., Matthews, E.E., Reshetnyak, Y.K., Senes, A. and Popot, J.L. 2003. Membrane protein folding: beyond the two stage model. FEBS Lett. 555: 122-125.
4. Stevens, T.J., Mizuguchi, K. and Arkin, I.T. 2004. Distinct protein interfaces in transmembrane domains suggest an *in vivo* folding model. Protein Sci. 13: 3028-3037.
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CHROMOSOMAL LOCATION

Genetic locus: TMEM115 (human) mapping to 3p21.31.

PRODUCT

PL6 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 PL6 shRNA Plasmid (h): sc-78005-SH and PL6 shRNA (h) Lentiviral Particles: sc-78005-V as alternate gene silencing products.

For independent verification of PL6 (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-78005A, sc-78005B and sc-78005C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

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

PL6 siRNA (h) is recommended for the inhibition of PL6 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

PL6 (38-K): sc-100652 is recommended as a control antibody for monitoring of PL6 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 PL6 gene expression knockdown using RT-PCR Primer: PL6 (h)-PR: sc-78005-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.