SANTA CRUZ BIOTECHNOLOGY, INC.

PLEKHQ1 siRNA (h): sc-90098

BACKGROUND

PLEKHQ1 (pleckstrin homology domain containing, family Q member 1), also known as PLEKHO2 (pleckstrin homology domain containing, family O member 2), PP1628 or pp9099, is a 490 amino acid protein that is believed to contain at least one pleckstrin homology (PH) domain. PH domains are responsible for mediating protein-protein and protein-lipid interactions. In humans, the gene encoding PLEKHQ1 is found on chromosome 15 and is known to be one of many circulat-responsive genes. Circulat is a plant extract formulation that was derived to prevent the severe onset of type 2 diabetes. Chromosome 15 makes up approximately 3% of the human genome and contains 106 million base pairs encoding more than 700 genes. Angelman and Prader-Willi syndromes are associated with loss of function or deletion of genes on chromosome 15q. Tay-Sachs disease and Marfan syndrome are also associated with chromosome 15.

REFERENCES

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3. Zody, M.C., et al. 2006. Analysis of the DNA sequence and duplication history of human chromosome 15. Nature 440: 671-675.
4. Cachón-González, M.B., et al. 2006. Effective gene therapy in an authentic model of Tay-Sachs-related diseases. Proc. Natl. Acad. Sci. USA 103: 10373-10378.
5. Diene, G., et al. 2007. The Prader-Willi syndrome. Ann. Endocrinol. 68: 129-137.
6. Lalande, M. and Calciano, M.A. 2007. Molecular epigenetics of Angelman syndrome. Cell. Mol. Life Sci. 64: 947-960.
7. Makoff, A.J. and Flomen, R.H. 2007. Detailed analysis of 15q11-q14 sequence corrects errors and gaps in the public access sequence to fully reveal large segmental duplications at breakpoints for Prader-Willi, Angelman, and inv dup(15) syndromes. Genome Biol. 8: R114.

CHROMOSOMAL LOCATION

Genetic locus: PLEKHO2 (human) mapping to 15q22.31.

PRODUCT

PLEKHQ1 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 PLEKHQ1 shRNA Plasmid (h): sc-90098-SH and PLEKHQ1 shRNA (h) Lentiviral Particles: sc-90098-V as alternate gene silencing products.

For independent verification of PLEKHQ1 (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-90098A, sc-90098B and sc-90098C.

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

PLEKHQ1 siRNA (h) is recommended for the inhibition of PLEKHQ1 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

PLEKHQ1 (SS-23): sc-100412 is recommended as a control antibody for monitoring of PLEKHQ1 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 PLEKHQ1 gene expression knockdown using RT-PCR Primer: PLEKHQ1 (h)-PR: sc-90098-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.