SANTA CRUZ BIOTECHNOLOGY, INC.

ALG8 siRNA (m): sc-105056

BACKGROUND

ALG8 (asparagine-linked glycosylation 8) is a 526 amino acid multi-pass membrane protein that localizes to the endoplasmic reticulum and belongs to the ALG6/ALG8 glucosyltransferase family. Involved in protein modification events, ALG8 functions to transfer glucose from dolichyl phosphate glucose to a lipid-linked oligosaccharide, effectively adding a second glucose residue to the lipid-linked oligosaccharide precursor for N-linked glycosylation. Defects in the gene encoding ALG8 are the cause of congenital disorder of glycosylation type 1H (CDG1H), an inherited disease that is caused by under-glycosylated serum proteins and is characterized by psychomotor retardation, dysmorphic features, hypotonia, coagulation disorders and immunodeficiency. The gene encoding ALG8 maps to human chromosome 11, which houses over 1,400 genes and comprises nearly 4% of the human genome.

REFERENCES

1. Stagljar, I., et al. 1994. New phenotype of mutations deficient in glucosylation of the lipid-linked oligosaccharide: cloning of the ALG8 locus. Proc. Natl. Acad. Sci. USA 91: 5977-5981.
2. Stanchi, F., et al. 2001. Characterization of 16 novel human genes showing high similarity to yeast sequences. Yeast 18: 69-80.
3. Oriol, R., et al. 2002. Common origin and evolution of glycosyltransferases using Dol-P-monosaccharides as donor substrate. Mol. Biol. Evol. 19: 1451-1463.
4. Chantret, I., et al. 2003. A deficiency in dolichyl-P-glucose:Glc1Man9 GlcNAc2-PP-dolichyl α3-glucosyltransferase defines a new subtype of congenital disorders of glycosylation. J. Biol. Chem. 278: 9962-9971.
5. Jaeken, J. and Carchon, H. 2004. Congenital disorders of glycosylation: a booming chapter of pediatrics. Curr. Opin. Pediatr. 16: 434-439.

CHROMOSOMAL LOCATION

Genetic locus: Alg8 (mouse) mapping to 7 E1.

PRODUCT

ALG8 siRNA (m) is a target-specific 19-25 nt siRNA 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 ALG8 shRNA Plasmid (m): sc-105056-SH and ALG8 shRNA (m) Lentiviral Particles: sc-105056-V as alternate gene silencing 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

ALG8 siRNA (m) is recommended for the inhibition of ALG8 expression in mouse 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ALG8 gene expression knockdown using RT-PCR Primer: ALG8 (m)-PR: sc-105056-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.