SANTA CRUZ BIOTECHNOLOGY, INC.

# ALG5 siRNA (h): sc-105055

## BACKGROUND

ALG5 (asparagine-linked glycosylation protein 5), also known as dolichyl-phosphate β-glucosyltransferase, is a 324 amino acid protein belonging to the glycosyltransferase 2 family. Localized to the endoplasmic reticulum membrane, ALG5 is expressed widely in pancreas, placenta, liver, heart, brain, kidney, skeletal muscle and lung. Functionally, ALG5, in conjunction with ALG6, participates in the glucosylation of the oligomannose core in N-linked glycosylation of proteins. The addition of glucose residues to the oligomannose core is critical for optimal substrate recognition and, therefore, is necessary to ensure the efficient transfer of the oligomannose core to nascent glycoproteins. Multiple isoforms of ALG5 exist as a result of alternative splicing events.

## REFERENCES


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2. Heesen, S., Lehle, L., Weissmann, A. and Aebi, M. 1994. Isolation of the ALG5 locus encoding the UDP-glucose:dolichyl-phosphate glucosyltransferase from *Saccharomyces cerevisiae*. Eur. J. Biochem. 224: 71-79.
3. Imbach, T., Burda, P., Kuhnert, P., Wevers, R.A., Aebi, M., Berger, E.G. and Hennet, T. 1999. A mutation in the human ortholog of the *Saccharomyces cerevisiae* ALG6 gene causes carbohydrate-deficient glycoprotein syndrome type-Ic. Proc. Natl. Acad. Sci. USA 96: 6982-6987.
4. Shpakov, A.O. 2001. Internal symmetry in nucleotide sequences of genes encoding the dolichol cycle enzymes. Tsitologiia 43: 491-500.
5. Abu-Qarn, M. and Eichler, J. 2006. Protein N-glycosylation in Archaea: defining *Haloferax volcanii* genes involved in S-layer glycoprotein glycosylation. Mol. Microbiol. 61: 511-525.


## CHROMOSOMAL LOCATION

Genetic locus: ALG5 (human) mapping to 13q13.3.

## PRODUCT

ALG5 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 ALG5 shRNA Plasmid (h): sc-105055-SH and ALG5 shRNA (h) Lentiviral Particles: sc-105055-V as alternate gene silencing products.

For independent verification of ALG5 (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-105055A, sc-105055B and sc-105055C.

## 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

ALG5 siRNA (h) is recommended for the inhibition of ALG5 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ALG5 gene expression knockdown using RT-PCR Primer: ALG5 (h)-PR: sc-105055-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.