SANTA CRUZ BIOTECHNOLOGY, INC.

ALG11 siRNA (m): sc-141011

BACKGROUND

ALG11 (asparagine-linked glycosylation 11), also known as GT8 or UTP14C, is a 492 amino acid multi-pass membrane proteins that is thought to play a role in spermatogenesis and is encoded by a gene which maps to chromosome 13q14.3. Comprising nearly 4% of the human genome, chromosome 13 contains around 114 million base pairs and encodes over 400 genes. Chromosome 13 houses key tumor suppressor genes, including BRCA2 and RB1, which are associated with breast cancer susceptibility and retinoblastoma, respectively. Trisomy 13, also known as Patau syndrome, is deadly and the few who survive past one year suffer from permanent neurologic defects, difficulty eating and vulnerability to serious respiratory infections.

REFERENCES

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2. Gao, X.D., et al. 2004. Physical interactions between the ALG1, ALG2, and ALG11 mannosyltransferases of the endoplasmic reticulum. Glycobiology 14: 559-570.
3. Dunham, A., et al. 2004. The DNA sequence and analysis of human chromosome 13. Nature 428: 522-528.
4. O'Reilly, M.K., et al. 2006. *In vitro* evidence for the dual function of ALG2 and ALG11: essential mannosyltransferases in N-linked glycoprotein biosynthesis. Biochemistry 45: 9593-9603.
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6. Bugge, M., et al. 2007. Non-disjunction of chromosome 13. Hum. Mol. Genet. 16: 2004-2010.
7. Hall, H.E., et al. 2007. The origin of trisomy 13. Am. J. Med. Genet. A 143A: 2242-2248.
8. Hassler, M., et al. 2007. Crystal structure of the retinoblastoma protein N domain provides insight into tumor suppression, ligand interaction and holoprotein architecture. Mol. Cell 28: 371-385.

CHROMOSOMAL LOCATION

Genetic locus: Alg11 (mouse) mapping to 8 A2.

PRODUCT

ALG11 siRNA (m) 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 ALG11 shRNA Plasmid (m): sc-141011-SH and ALG11 shRNA (m) Lentiviral Particles: sc-141011-V as alternate gene silencing products.

For independent verification of ALG11 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-141011A, sc-141011B and sc-141011C.

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

ALG11 siRNA (m) is recommended for the inhibition of ALG11 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 ALG11 gene expression knockdown using RT-PCR Primer: ALG11 (m)-PR: sc-141011-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.