SANTA CRUZ BIOTECHNOLOGY, INC.

# CTBS siRNA (m): sc-142613

## BACKGROUND

CTBS (di-N-acetylchitobiase), also known as CTB (chitobiase), is an evolutionarily conserved member of the glycosyl hydrolase 18 family of proteins. Localizing to the lysosome, CTBS plays a role in the degradation of asparagine-linked (Asn-linked) glycoproteins. Glycoproteins are translocated to lysosomes via endocytosis or autophagy where they are broken down by proteases and glycosidases. The catabolism of glycoproteins is an important step in the regular turnover of cellular contents and in maintaining the homeostasis of glycosylation. CTBS functions as a glycosidase that cleaves the reducing end GlcNAc from the core chitobiase unit of oligosaccharides. Before this reaction can occur, AGA (the lysosomal glycosylasparaginase) must first remove the Asn from the Asn-linked glycoprotein to expose the reducing end GlcNAc, thereby allowing CTBS to access the exposed moiety.

## REFERENCES


1. Kuranda, M.J. and Aronson, N.N. 1986. A di-N-acetylchitobiase activity is involved in the lysosomal catabolism of asparagine-linked glycoproteins in rat liver. J. Biol. Chem. 261: 5803-5809.
2. Aronson, N.N. and Kuranda, M.J. 1989. Lysosomal degradation of Asn-linked glycoproteins. FASEB J. 3: 2615-2622.
3. Fisher, K.J. and Aronson, N.N. 1992. Cloning and expression of the cDNA sequence encoding the lysosomal glycosidase di-N-acetylchitobiase. J. Biol. Chem. 267: 19607-19616.
4. Fisher, K.J. and Aronson, N.N. 1992. Characterization of the cDNA and genomic sequence of a G protein γ subunit (γ5). Mol. Cell. Biol. 12: 1585-1591.
5. Liu, B., Ahmad, W. and Aronson, N.N. 1999. Structure of the human gene for lysosomal di-N-acetylchitobiase. Glycobiology 9: 589-593.


## CHROMOSOMAL LOCATION

Genetic locus: Ctbs (mouse) mapping to 3 H2.

## PRODUCT

CTBS 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 CTBS shRNA Plasmid (m): sc-142613-SH and CTBS shRNA (m) Lentiviral Particles: sc-142613-V as alternate gene silencing products.

For independent verification of CTBS (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-142613A, sc-142613B and sc-142613C.

## 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.

## 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

CTBS siRNA (m) is recommended for the inhibition of CTBS 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 CTBS gene expression knockdown using RT-PCR Primer: CTBS (m)-PR: sc-142613-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.