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# TGN38 siRNA (h): sc-44148

## BACKGROUND

TGN38 (*trans*-Golgi network protein 2) is a type I integral membrane protein that constitutively cycles between the TGN and plasma membrane where it partitions nascent proteins into carrier vesicles for transport to appropriate destinations in the cell. The cytosolic domain of TGN38 interacts with AP2 Clathrin adaptor complexes via the tyrosine-containing motif (SDYQRL) to direct internalization from the plasma membrane. N- and O-linked oligosaccharide chains attach to the core TGN38 protein to produce a protein present in brain, lung and kidney.

## REFERENCES

1. Luzio, J.P., et al. 1990. Identification, sequencing and expression of an integral membrane protein of the *trans*-Golgi network (TGN38). *Biochem. J.* 270: 97-102.
2. Ghosh, R.N., et al. 1998. An endocytosed TGN38 chimeric protein is delivered to the TGN after trafficking through the endocytic recycling compartment in CHO cells. *J. Cell Biol.* 142: 923-936.
3. Stephens, D.J. and Banting, G. 1999. Direct interaction of the *trans*-Golgi network membrane protein, TGN38, with the F-Actin binding protein, neurabin. *J. Biol. Chem.* 274: 30080-30086.
4. Lee, S.S. and Banting, G. 2002. Characterisation of the luminal domain of TGN38 and effects of elevated expression of TGN38 on glycoprotein secretion. *Eur. J. Cell Biol.* 81: 609-621.
5. Bauer, R.A., et al. 2004. Retention and stimulus-dependent recycling of dense core vesicle content in neuroendocrine cells. *J. Cell Sci.* 117: 2193-2202.
6. Saint-Pol, A., et al. 2004. Clathrin adaptor epsinR is required for retrograde sorting on early endosomal membranes. *Dev. Cell* 6: 525-538.
7. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 603062. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: TGN38 (human) mapping to 2p11.2.

## PRODUCT

TGN38 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TGN38 shRNA Plasmid (h): sc-44148-SH and TGN38 shRNA (h) Lentiviral Particles: sc-44148-V as alternate gene silencing products.

For independent verification of TGN38 (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-44148A, sc-44148B and sc-44148C.

## PROTOCOLS

See our web site at [www.scbt.com](http://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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

TGN38 siRNA (h) is recommended for the inhibition of TGN38 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  $\mu$ M in 66  $\mu$ l. 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

TGN38 (B-6): sc-166594 is recommended as a control antibody for monitoring of TGN38 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-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TGN38 gene expression knockdown using RT-PCR Primer: TGN38 (h)-PR: sc-44148-PR (20  $\mu$ l). 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.