



Sec31B siRNA (m): sc-153315

BACKGROUND

WD-repeats are motifs that are found in a variety of proteins and are characterized by a conserved core of 40-60 amino acids that commonly form a tertiary propeller structure. While proteins that contain WD-repeats participate in a wide range of cellular functions, they are generally involved in regulatory mechanisms concerning chromatin assembly, cell cycle control, signal transduction, RNA processing, apoptosis and vesicular trafficking. Sec31B (SEC31 homolog B (*S. cerevisiae*)), also known as SEC31L2 (SEC31-like 2), is a 1,179 amino acid peripheral membrane protein that plays a role in vesicle budding and cargo export from the endoplasmic reticulum and belongs to the WD repeat SEC31 family. Existing as five alternatively spliced isoforms, Sec31B is ubiquitously expressed and is a component of the coat protein complex II (COPII).

REFERENCES

1. Tang, B.L., et al. 2000. Mammalian homologues of yeast sec31p. An ubiquitously expressed form is localized to endoplasmic reticulum (ER) exit sites and is essential for ER-Golgi transport. *J. Biol. Chem.* 275: 13597-13604.
2. Grupe, A., et al. 2006. A scan of chromosome 10 identifies a novel locus showing strong association with late-onset Alzheimer disease. *Am. J. Hum. Genet.* 78: 78-88.
3. Stankewich, M.C., et al. 2006. Human Sec31B: a family of new mammalian orthologues of yeast Sec31p that associate with the COPII coat. *J. Cell Sci.* 119: 958-969.
4. Stagg, S.M., et al. 2006. Structure of the Sec13/31 COPII coat cage. *Nature* 439: 234-238.
5. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 610258. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Townley, A.K., et al. 2008. Efficient coupling of Sec23-Sec24 to Sec13-Sec31 drives COPII-dependent collagen secretion and is essential for normal craniofacial development. *J. Cell Sci.* 121: 3025-3034.

CHROMOSOMAL LOCATION

Genetic locus: Sec31b (mouse) mapping to 19 C3.

PRODUCT

Sec31B 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Sec31B shRNA Plasmid (m): sc-153315-SH and Sec31B shRNA (m) Lentiviral Particles: sc-153315-V as alternate gene silencing products.

For independent verification of Sec31B (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-153315A, sc-153315B and sc-153315C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Sec31B siRNA (m) is recommended for the inhibition of Sec31B 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 μ M in 66 μ 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Sec31B gene expression knockdown using RT-PCR Primer: Sec31B (m)-PR: sc-153315-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.