

Sec61 γ siRNA (m): sc-155965

BACKGROUND

Sec61 γ is a subunit of the heteromeric Sec61 complex, which also contains α and β subunits. The Sec61 complex is the central component of the protein translocation apparatus of the endoplasmic reticulum (ER) membrane. Oligomers of the Sec61 complex form a transmembrane channel where proteins are translocated across and integrated into the ER membrane. The Sec61 complex distributes to both the ER and the ER-Golgi intermediate compartment, but not to the *trans*-Golgi network. Sec61 γ is a 68 amino acid single-pass membrane protein that belongs to the secE/Sec61 γ family. The Sec61 γ gene is conserved in chimpanzee, canine, bovine, mouse, rat, chicken, fruit fly, *C. elegans*, *A. thaliana* and rice, and maps to human chromosome 7p11.2. Amplification of a defined chromosome segment on the short arm of chromosome 7 has frequently been reported in glioblastoma multiforme (GBM), where it is generally assumed that it is the result of over expression of the epidermal growth factor receptor (EGFR) gene that provides the selective pressure to maintain the amplification event.

REFERENCES

1. Hartmann, E., et al. 1994. Evolutionary conservation of components of the protein translocation complex. *Nature* 367: 654-657.
2. Wiertz, E.J., et al. 1996. Sec61-mediated transfer of a membrane protein from the endoplasmic reticulum to the proteasome for destruction. *Nature* 384: 432-438.
3. Beckmann, R., et al. 1997. Alignment of conduits for the nascent polypeptide chain in the ribosome-Sec61 complex. *Science* 278: 2123-2126.
4. Chen, Y., et al. 1998. Calnexin and other factors that alter translocation affect the rapid binding of ubiquitin to apoB in the Sec61 complex. *J. Biol. Chem.* 273: 11887-11894.
5. Greenfield, J.J., et al. 1999. The Sec61 complex is located in both the ER and the ER-Golgi intermediate compartment. *J. Cell Sci.* 112: 1477-1486.
6. Zhang, Q.H., et al. 2000. Cloning and functional analysis of cDNAs with open reading frames for 300 previously undefined genes expressed in CD34⁺ hematopoietic stem/progenitor cells. *Genome Res.* 10: 1546-1560.

CHROMOSOMAL LOCATION

Genetic locus: Sec61g (mouse) mapping to 11 A2.

PRODUCT

Sec61 γ siRNA (m) is a pool of 2 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 Sec61 γ shRNA Plasmid (m): sc-155965-SH and Sec61 γ shRNA (m) Lentiviral Particles: sc-155965-V as alternate gene silencing products.

For independent verification of Sec61 γ (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-155965A and sc-155965B.

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

Sec61 γ siRNA (m) is recommended for the inhibition of Sec61 γ 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 Sec61 γ gene expression knockdown using RT-PCR Primer: Sec61 γ (m)-PR: sc-155965-PR (20 μ 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.

PROTOCOLS

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