



Rer1 siRNA (m): sc-152808

BACKGROUND

Rer1 (RER1 retention in endoplasmic reticulum 1), also known as RP4-740C4.2, is a 196 amino acid multi-pass membrane protein that localizes to the Golgi apparatus. Rer1 is involved in the retrieval of endoplasmic reticulum membrane proteins from the early Golgi compartment. Rer1 acts as a PEN-2-binding protein that plays a role as an auxiliary factor for γ -secretase complex assembly. Rer1 is encoded by a gene located on human chromosome 1, which spans 260 million base pairs, contains over 3,000 genes and comprises nearly 8% of the human genome. Chromosome 1 houses a large number of disease-associated genes, including those that are involved in familial adenomatous polyposis, Stickler syndrome, Parkinson's disease, Gaucher disease, schizophrenia and Usher syndrome. Aberrations in chromosome 1 are found in a variety of cancers, including head and neck cancer, malignant melanoma and multiple myeloma.

REFERENCES

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2. Sato, K., et al. 1999. The *Arabidopsis thaliana* RER1 gene family: its potential role in the endoplasmic reticulum localization of membrane proteins. *Plant Mol. Biol.* 41: 815-824.
3. Blackwood, D.H., et al. 2001. Schizophrenia and affective disorders — cosegregation with a translocation at chromosome 1q42 that directly disrupts brain-expressed genes: clinical and P300 findings in a family. *Am. J. Hum. Genet.* 69: 428-433.
4. Sato, K., et al. 2001. Rer1p, a retrieval receptor for endoplasmic reticulum membrane proteins, is dynamically localized to the Golgi apparatus by coatamer. *J. Cell Biol.* 152: 935-944.
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6. Kaether, C., et al. 2006. Assembly, trafficking and function of γ -secretase. *Neurodegener. Dis.* 3: 275-283.
7. Kaether, C., et al. 2007. Endoplasmic reticulum retention of the γ -secretase complex component PEN-2 by Rer1. *EMBO Rep.* 8: 743-748.

CHROMOSOMAL LOCATION

Genetic locus: Rer1 (mouse) mapping to 4 E2.

PRODUCT

Rer1 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 Rer1 shRNA Plasmid (m): sc-152808-SH and Rer1 shRNA (m) Lentiviral Particles: sc-152808-V as alternate gene silencing products.

For independent verification of Rer1 (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-152808A, sc-152808B and sc-152808C.

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

Rer1 siRNA (m) is recommended for the inhibition of Rer1 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 Rer1 gene expression knockdown using RT-PCR Primer: Rer1 (m)-PR: sc-152808-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.