SANTA CRUZ BIOTECHNOLOGY, INC.

ERGIC-2 siRNA (m): sc-144928

BACKGROUND

Cycling proteins play important roles in the organization and function of the early secretory pathway by participating in membrane traffic and selective transport of cargo between the endoplasmic reticulum (ER), the intermediate compartment (ERGIC), and the Golgi. A family of membrane bound, ubiquitous proteins involved in the selective transport of newly synthesized glycoproteins from the ER to the ERGIC include VIP36, ERGIC-53, ERGIC-1, ERGIC-2 and ERGIC-3. ERGIC-1, also designated ERGIC32, is thought to modulate the activity of a complex formed by ERGIC-2, also designated Erv41, and ERGIC-3, also designated Erv46. ERGIC-2 and ERGIC-3 are both mammalian homologs of yeast proteins abundant in COPII-coated vesicles and localize to the *cis*-face of the Golgi apparatus.

REFERENCES

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2. Hauri, H.P., et al. 2002. Lectins and protein traffic early in the secretory pathway. Biochem. Soc. Symp. 69: 73-82.
3. Orci, L., et al. 2003. Mammalian Erv46 localizes to the endoplasmic reticulum-Golgi intermediate compartment and to *cis*-Golgi cisternae. Proc. Natl. Acad. Sci. USA 100: 4586-4591.
4. Breuza, L., et al. 2004. Proteomics of endoplasmic reticulum-Golgi intermediate compartment (ERGIC) membranes from brefeldin A-treated HepG2 cells identifies ERGIC-32, a new cycling protein that interacts with human Erv46. J. Biol. Chem. 279: 47242-47253.
5. Kamiya, Y. et al. 2005. Sugar-binding properties of VIP36, an intracellular animal lectin operating as a cargo receptor. J. Biol. Chem. 280: 37178-37182.
6. Appenzeller-Herzog, C., et al. 2006. The ER-Golgi intermediate compartment (ERGIC): in search of its identity and function. J. Cell Sci. 119: 2173-2183.
7. Welsh, L.M., et al. 2006. Genetic and molecular interactions of the Erv41p-Erv46p complex involved in transport between the endoplasmic reticulum and Golgi complex. J. Cell Sci. 119: 4730-4740.

CHROMOSOMAL LOCATION

Genetic locus: Ergic2 (mouse) mapping to 6 G3.

PRODUCT

ERGIC-2 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 ERGIC-2 shRNA Plasmid (m): sc-144928-SH and ERGIC-2 shRNA (m) Lentiviral Particles: sc-144928-V as alternate gene silencing products.

For independent verification of ERGIC-2 (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-144928A, sc-144928B and sc-144928C.

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

ERGIC-2 siRNA (m) is recommended for the inhibition of ERGIC-2 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 ERGIC-2 gene expression knockdown using RT-PCR Primer: ERGIC-2 (m)-PR: sc-144928-PR (20 µl). 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.