

rabphilin-11 siRNA (h): sc-91212

BACKGROUND

Rabphilin-11, also known as WDR44 (WD repeat-containing protein 44), is a 913 amino acid protein that contains seven WD repeats and may be involved in vesicle and endosome recycling. Acting as a downstream effector for Rab 11, rabphilin-11 colocalizes with Rab 11 along microtubules oriented toward lamellipodia. The Rab 11 protein localizes to sorting endosomes, recycling endosomes, *trans*-Golgi network membranes and post-Golgi secretory vesicles, and is implicated in vesicle recycling. Although rabphilin-11 interacts with the GTP-bound form of Rab 11 during membrane association, rabphilin-11 does not bind to other Rab and Rho small G proteins. Rabphilin-11 is phosphorylated upon DNA damage, probably by Atm or ATR. Existing as three alternatively spliced isoforms, the rabphilin-11 gene is conserved in chimpanzee, canine, bovine, mouse, rat, chicken, zebrafish and *C. elegans*, and maps to human chromosome Xq24.

REFERENCES

1. Mammoto, A., Ohtsuka, T., Hotta, I., Sasaki, T. and Takai, Y. 1999. Rab11BP/Rabphilin-11, a downstream target of rab11 small G protein implicated in vesicle recycling. *J. Biol. Chem.* 274: 25517-25524.
2. Zeng, J., Ren, M., Gravotta, D., De Lemos-Chiarandini, C., Lui, M., Erdjument-Bromage, H., Tempst, P., Xu, G., Shen, T.H., Morimoto, T., Adesnik, M. and Sabatini, D.D. 1999. Identification of a putative effector protein for rab11 that participates in transferrin recycling. *Proc. Natl. Acad. Sci. USA* 96: 2840-2845.
3. Mammoto, A., Sasaki, T., Kim, Y. and Takai, Y. 2000. Physical and functional interaction of rabphilin-11 with mammalian Sec13 protein. Implication in vesicle trafficking. *J. Biol. Chem.* 275: 13167-13170.
4. Prekeris, R., Davies, J.M. and Scheller, R.H. 2001. Identification of a novel Rab11/25 binding domain present in Eferin and Rip proteins. *J. Biol. Chem.* 276: 38966-38970.
5. Ross, M.T., Grafham, D.V., Coffey, A.J., Scherer, S., McLay, K., Muzny, D., Platzer, M., Howell, G.R., Burrows, C., Bird, C.P., Frankish, A., Lovell, F.L., Howe, K.L., Ashurst, J.L., Fulton, R.S., Sudbrak, R., Wen, G., et al. 2005. The DNA sequence of the human X chromosome. *Nature* 434: 325-337.
6. Olsen, J.V., Blagoev, B., Gnad, F., Macek, B., Kumar, C., Mortensen, P. and Mann, M. 2006. Global, *in vivo*, and site-specific phosphorylation dynamics in signaling networks. *Cell* 127: 635-648.
7. Matsuoka, S., Ballif, B.A., Smogorzewska, A., McDonald, E.R., Hurov, K.E., Luo, J., Bakalarski, C.E., Zhao, Z., Solimini, N., Lerenthal, Y., Shiloh, Y., Gygi, S.P. and Elledge, S.J. 2007. ATM and ATR substrate analysis reveals extensive protein networks responsive to DNA damage. *Science* 316: 1160-1166.

CHROMOSOMAL LOCATION

Genetic locus: WDR44 (human) mapping to Xq24.

PROTOCOLS

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

PRODUCT

rabphilin-11 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see rabphilin-11 shRNA Plasmid (h): sc-91212-SH and rabphilin-11 shRNA (h) Lentiviral Particles: sc-91212-V as alternate gene silencing products.

For independent verification of rabphilin-11 (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-91212A, sc-91212B and sc-91212C.

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

rabphilin-11 siRNA (h) is recommended for the inhibition of rabphilin-11 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 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 rabphilin-11 gene expression knockdown using RT-PCR Primer: rabphilin-11 (h)-PR: sc-91212-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.