SANTA CRUZ BIOTECHNOLOGY, INC.

PRA1 siRNA (h): sc-97561

BACKGROUND

PRA1 (prenylated Rab acceptor protein 1), alternately known as RABAC1 (Rab acceptor 1) or YIP3, is a 185 amino acid multi-pass membrane protein and Rab regulator required for vesicle formation from the Golgi complex. Existing as a homodimer, PRA1 is ubiquitously expressed and found at high levels in pituitary gland, kidney, placenta, stomach and lung. PRA1 interacts with prenylated Rab proteins, most specifically, Rab 4B, Rab 5A and Rab 5C, along with VAMP-2, Rab GDI α and piccolo. PRA1 weakly interacts with Rab 4A, Rab 6, Rab 7, Rab 17 and Rab 22. PRA1 may regulate the action of Rab GTPases to SNARE complexes, thereby controlling vesicle fusion and docking.

REFERENCES

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2. Figueroa, C., et al. 2001. Prenylated Rab acceptor protein is a receptor for prenylated small GTPases. J. Biol. Chem. 276: 28219-28225.
3. Evans, D.T., et al. 2002. Envelope glycoprotein cytoplasmic domains from diverse lentiviruses interact with the prenylated Rab acceptor. J. Virol. 76: 327-337.
4. Jacobs, C. and Pirson, I. 2003. Pitfalls in the use of transfected overexpression systems to study membrane proteins function: the case of TSH receptor and PRA1. Mol. Cell. Endocrinol. 209: 71-75.
5. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 604925. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Blancou, P., et al. 2005. PRA1 co-localizes with envelope but does not influence primate lentivirus production, infectivity or envelope incorporation. J. Gen. Virol. 86: 1785-1790.
7. Kim, J.T., et al. 2006. Prenylated Rab acceptor 1 (PRA1) inhibits TCF/β-catenin signaling by binding to β-catenin. Biochem. Biophys. Res. Commun. 349: 200-208.
8. Liu, H.P., et al. 2006. PRA1 promotes the intracellular trafficking and NFκB signaling of EBV latent membrane protein 1. EMBO J. 25: 4120-4130.

CHROMOSOMAL LOCATION

Genetic locus: RABAC1 (human) mapping to 19q13.2.

PRODUCT

PRA1 siRNA (h) is a target-specific 19-25 nt siRNA 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 PRA1 shRNA Plasmid (h): sc-97561-SH and PRA1 shRNA (h) Lentiviral Particles: sc-97561-V as alternate gene silencing products.

PROTOCOLS

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

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

PRA1 siRNA (h) is recommended for the inhibition of PRA1 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 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.

GENE EXPRESSION MONITORING

PRA1 (2A4): sc-293351 is recommended as a control antibody for monitoring of PRA1 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PRA1 gene expression knockdown using RT-PCR Primer: PRA1 (h)-PR: sc-97561-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.