SANTA CRUZ BIOTECHNOLOGY, INC.

Rab 3 GAP p150 siRNA (h): sc-78762

BACKGROUND

Rab 3 GAP p150, also known as RAB3GAP2 or Rab3 GTPase-activating protein non-catalytic subunit, is a ubiquitously expressed protein that contains 1,393 amino acids and belongs to the Rab3-GAP regulatory subunit family. Defects in Rab 3 GAP p150 are the cause of Martsolf and Warburg Micro syndrome. Both syndromes are characterized by congenital cataracts, microphthalmia, postnatal microcephaly and developmental delay, and are inherited in an autosomal recessive manner. The Rab3 GTPase-activating complex is a heterodimer composed of RAB3GAP and Rab 3 GAP p150 that interacts with DMXL2. Existing as two alternatively spliced isoforms, the Rab 3 GAP p150 gene is conserved in chimpanzee, canine, bovine, rat, chicken, zebrafish, fruit fly, mosquito, *A.thaliana* and rice. The Rab 3 GAP p150 gene contains 36 exons and maps to human chromosome 1q41.

REFERENCES

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2. Nagano, F., et al. 1998. Molecular cloning and characterization of the non-catalytic subunit of the Rab3 subfamily-specific GTPase-activating protein. J. Biol. Chem. 273: 24781-24785.
3. Aligianis, I.A., et al. 2005. Mutations of the catalytic subunit of RAB3GAP cause Warburg Micro syndrome. Nat. Genet. 37: 221-223.
4. Online Mendelian Inheritance in Man, OMIM™. 2005. Johns Hopkins University, Baltimore, MD. MIM Number: 609275. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Aligianis, I.A., et al. 2006. Mutation in Rab3 GTPase-activating protein (RAB3GAP) noncatalytic subunit in a kindred with Martsolf syndrome. Am. J. Hum. Genet. 78: 702-707.
6. Gregory, S.G., et al. 2006. The DNA sequence and biological annotation of human chromosome 1. Nature 441: 315-321.
7. Ng, E.L. and Tang, B.L. 2008. Rab GTPases and their roles in brain neurons and glia. Brain Res. Rev. 58: 236-246.

CHROMOSOMAL LOCATION

Genetic locus: RAB3GAP2 (human) mapping to 1q41.

PRODUCT

Rab 3 GAP p150 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Rab 3 GAP p150 shRNA Plasmid (h): sc-78762-SH and Rab 3 GAP p150 shRNA (h) Lentiviral Particles: sc-78762-V as alternate gene silencing products.

For independent verification of Rab 3 GAP p150 (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-78762A, sc-78762B and sc-78762C.

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

Rab 3 GAP p150 siRNA (h) is recommended for the inhibition of Rab 3 GAP p150 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

Rab 3 GAP p150 (B-9): sc-398315 is recommended as a control antibody for monitoring of Rab 3 GAP p150 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 Rab 3 GAP p150 gene expression knockdown using RT-PCR Primer: Rab 3 GAP p150 (h)-PR: sc-78762-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.