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SANTA CRUZ BIOTECHNOLOGY, INC.

RGC32 siRNA (m): sc-152835

BACKGROUND

RGC32 (response gene to complement 32), also known as C13orf15, is a 137 amino acid protein that localizes to the cytoplasm, as well as to the nucleus and the centrosome. Expressed at high levels in kidney, pancreas and skeletal muscle and at lower levels in brain, heart and placenta, RGC32 functions to modulate the activity of cell cycle-specific kinases, thereby regulating cell cycle progression. Additionally, RGC32 may promote cell cycle arrest at the G_2/M phase transition and is thought to inhibit the growth of glioma cells, possibly functioning as a tumor suppressor. Conversely, overexpression of RGC32 may promote cell replication and assist in the pathogenesis of malignancies, suggesting that RGC32 also participates in tumor transformation and progression. RGC32 activity is induced by complement activation and by p53 in response to DNA damage. Multiple isoforms of RGC32 exist as a result of alternative splicing events.

REFERENCES

1. Badea, T.C., Niculescu, F.I., Soane, L., Shin, M.L. and Rus, H. 1998. Molecular cloning and characterization of RGC32, a novel gene induced by complement activation in oligodendrocytes. J. Biol. Chem. 273: 26977-26981.
2. Badea, T., Niculescu, F., Soane, L., Fosbrink, M., Sorana, H., Rus, V., Shin, M.L. and Rus, H. 2002. RGC32 increases p34Cdc2 kinase activity and entry of aortic smooth muscle cells into S-phase. J. Biol. Chem. 277: 502-508.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610077. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Fosbrink, M., Cudrici, C., Niculescu, F., Badea, T.C., David, S., Shamsuddin, A., Shin, M.L. and Rus, H. 2005. Overexpression of RGC32 in colon cancer and other tumors. Exp. Mol. Pathol. 78: 116-122.
5. Fosbrink, M., Niculescu, F. and Rus, H. 2005. The role of C5b-9 terminal complement complex in activation of the cell cycle and transcription. Immunol. Res. 31: 37-46.

CHROMOSOMAL LOCATION

Genetic locus: Rgcc (mouse) mapping to 14 D3.

PRODUCT

RGC32 siRNA (m) 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 RGC32 shRNA Plasmid (m): sc-152835-SH and RGC32 shRNA (m) Lentiviral Particles: sc-152835-V as alternate gene silencing products.

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.

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

RGC32 siRNA (m) is recommended for the inhibition of RGC32 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 RGC32 gene expression knockdown using RT-PCR Primer: RGC32 (m)-PR: sc-152835-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.