SANTA CRUZ BIOTECHNOLOGY, INC.

Roquin siRNA (m): sc-153064

BACKGROUND

Roquin, also known as RC3H1 (ring finger and CCCH-type zinc finger domains 1) or RNF198 (RING finger protein 198), is a 1,133 amino acid protein that localizes to cytosolic RNA granules and contains one RING-type zinc finger and one C3H1-type zinc finger. Expressed ubiquitously with highest expression in liver, spleen, ovary and cerebellum, Roquin functions to repress the activity of ICOS (inducible T cell co-stimulator), an essential receptor for follicular T cells, thereby playing an important role in autoimmunity. Additionally, Roquin is thought to exhibit ubiquitin ligase activity and may regulate the ubiquitin-dependent control of AU-rich mRNA translation and stability. Two isoforms of Roquin exist due to alternative splicing events.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 609424. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
2. Dong, C. and Nurieva, R.I. 2003. Regulation of immune and autoimmune responses by ICOS. J. Autoimmun. 21: 255-260.
3. Heissmeyer, V., et al. 2005. A plague of autoantibodies. Nat. Immunol. 6: 642-644.
4. Vinuesa, C.G., et al. 2005. A RING-type ubiquitin ligase family member required to repress follicular helper T cells and autoimmunity. Nature 435: 452-458.
5. Spurkland, A. and Sollid, L.M. 2006. Mapping genes and pathways in autoimmune disease. Trends Immunol. 27: 336-342.
6. Yu, D., et al. 2007. Roquin represses autoimmunity by limiting inducible T cell co-stimulator messenger RNA. Nature 450: 299-303.
7. Vinuesa, C.G. and Cook, M.C. 2007. Genetic analysis of systemic autoimmunity. Novartis Found. Symp. 281: 103-120.

CHROMOSOMAL LOCATION

Genetic locus: Rc3h1 (mouse) mapping to 1 H2.1.

PRODUCT

Roquin 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 Roquin shRNA Plasmid (m): sc-153064-SH and Roquin shRNA (m) Lentiviral Particles: sc-153064-V as alternate gene silencing products.

For independent verification of Roquin (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-153064A, sc-153064B and sc-153064C.

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

Roquin siRNA (m) is recommended for the inhibition of Roquin 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 Roquin gene expression knockdown using RT-PCR Primer: Roquin (m)-PR: sc-153064-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.