SANTA CRUZ BIOTECHNOLOGY, INC.

LRBA siRNA (h): sc-89238

BACKGROUND

LRBA (LPS-responsive vesicle trafficking, beach and anchor containing), also known as beige-like protein, CDC4L (cell division cycle 4-like protein), LAB300, GL or LBA, is a 2,863 amino acid single-pass membrane protein of the endoplasmic reticulum, lysosome and Golgi apparatus. Ubiquitously expressed and existing as two alternatively spliced isoforms, LRBA plays a role in polarized vesicle trafficking and signal transduction. LRBA contains six WD repeats, a BEACH domain and is induced by LPS. LRBA undergoes post-translational phosphorylation in response to DNA damage, most likely by ATR or Atm. The gene encoding LRBA maps to human chromosome 4q31.3, which represents approximately 6% of the human genome, contains nearly 900 genes and is associated with Huntington's disease, Ellis-van Creveld syndrome, methylmalonic acidemia and polycystic kidney disease.

REFERENCES

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2. Kalchman, M.A., et al. 1996. Huntingtin is ubiquitinated and interacts with a specific ubiquitin-conjugating enzyme. J. Biol. Chem. 271: 19385-19394.
3. Krakow, D., et al. 2000. Exclusion of the Ellis-van Creveld region on chromosome 4p16 in some families with asphyxiating thoracic dystrophy and short-rib polydactyly syndromes. Eur. J. Hum. Genet. 8: 645-648.
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5. Sommardahl, C., et al. 2001. Phenotypic variations of orpk mutation and chromosomal localization of modifiers influencing kidney phenotype. Physiol. Genomics 7: 127-134.
6. Dyomin, V.G., et al. 2002. BCL8 is a novel, evolutionarily conserved human gene family encoding proteins with presumptive protein kinase A anchoring function. Genomics 80: 158-165.
7. Dobson, C.M., et al. 2002. Identification of the gene responsible for the cblA complementation group of vitamin B12-responsive methylmalonic acidemia based on analysis of prokaryotic gene arrangements. Proc. Natl. Acad. Sci. USA 99: 15554-15559.
8. Gebauer, D., et al. 2004. Crystal structure of the PH-BEACH domains of human LRBA/BGL. Biochemistry 43: 14873-14880.
9. Matsuoka, S., et al. 2007. ATM and ATR substrate analysis reveals extensive protein networks responsive to DNA damage. Science 316: 1160-1166.

CHROMOSOMAL LOCATION

Genetic locus: LRBA (human) mapping to 4q31.3.

PROTOCOLS

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

PRODUCT

LRBA 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 LRBA shRNA Plasmid (h): sc-89238-SH and LRBA shRNA (h) Lentiviral Particles: sc-89238-V as alternate gene silencing products.

For independent verification of LRBA (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-89238A, sc-89238B and sc-89238C.

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

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

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor LRBA gene expression knockdown using RT-PCR Primer: LRBA (h)-PR: sc-89238-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.