SANTA CRUZ BIOTECHNOLOGY, INC.

ANKRD37 siRNA (h): sc-89206

BACKGROUND

Ankyrins are membrane adaptor molecules that play important roles in coupling integral membrane proteins to the spectrin-based cytoskeleton network. Mutations of ankyrin genes lead to severe genetic diseases such as fatal cardiac arrhythmias and hereditary spherocytosis. ANKRD37 (ankyrin repeat domain 37), also known as Lrp2bp, is a 158 amino acid protein that localized to both nucleus and cytoplasm. Mainly expressed in testis, small intestine, colon, blood leukocytes and pancreatic adenocarcinoma cells, ANKRD37 contains three ANK repeats, suggesting involvement in mediating protein-protein interactions. The gene encoding ANKRD37 maps to human chromsome 4q35.1, which encodes nearly 6% of the human genome and has the largest number of gene deserts (regions of the genome with no protein encoding genes) of all of the human chromosomes.

REFERENCES

1. Mosavi, L.K., et al. 2002. Consensus-derived structural determinants of the ankyrin repeat motif. Proc. Natl. Acad. Sci. USA 99: 16029-16034.
2. Mosavi, L.K., et al. 2004. The ankyrin repeat as molecular architecture for protein recognition. Protein Sci. 13: 1435-1448.
3. Li, J., et al. 2005. Molecular cloning and characterization of a novel human gene containing 4 ankyrin repeat domains. Cell. Mol. Biol. Lett. 10: 185-193.
4. Li, J., et al. 2006. Ankyrin repeat: a unique motif mediating protein-protein interactions. Biochemistry 45: 15168-15178.
5. Hopitzan, A.A., et al. 2006. Molecular evolution of ankyrin: gain of function in vertebrates by acquisition of an Obscurin/Titin-binding-related domain. Mol. Biol. Evol. 23: 46-55.
6. Cai, X. and Zhang, Y. 2006. Molecular evolution of the ankyrin gene family. Mol. Biol. Evol. 23: 550-558.
7. Benita, Y., et al. 2009. An integrative genomics approach identifies hypoxia inducible factor-1 (HIF-1)-target genes that form the core response to hypoxia. Nucleic Acids Res. 37: 4587-4602.

CHROMOSOMAL LOCATION

Genetic locus: ANKRD37 (human) mapping to 4q35.1.

PRODUCT

ANKRD37 siRNA (h) is a pool of 2 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 ANKRD37 shRNA Plasmid (h): sc-89206-SH and ANKRD37 shRNA (h) Lentiviral Particles: sc-89206-V as alternate gene silencing products.

For independent verification of ANKRD37 (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-89206A and sc-89206B.

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

ANKRD37 siRNA (h) is recommended for the inhibition of ANKRD37 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 ANKRD37 gene expression knockdown using RT-PCR Primer: ANKRD37 (h)-PR: sc-89206-PR (20 µl, 514 bp). 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.