SANTA CRUZ BIOTECHNOLOGY, INC.

ANKRD25 siRNA (h): sc-97396

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. ANKRD25 (ankyrin repeat domain 25), also known as KANK2 (KN motif and ankyrin repeat domains 2), MXRA3 (matrix-remodeling-associated protein 3) or SIP (SRC-1-interacting protein), is an 851 amino acid coiled-coil protein that contains five ANK proteins and exists as three alternatively spliced isoforms. Encoded by a gene that maps to human chromosome 19p13.2, ANKRD25 is strongly expressed in cervix, colon, heart, kidney and lung, and is phosphorylated upon DNA damage, likely by Atm or ATR. ANKRD25 interacts with steroid receptor coactivators (SRCs) in cytoplasm and aids in secluding and insulating SRCs, thereby managing transcription regulators. ANKRD25 plays a regulatory role in actin polymerization and cell motility, and assists in the formation of actin stress fibers. ANKRD25 may also control actin dynamics in podocyte foot processes.

REFERENCES

1. Harada, J.N., et al. 2005. Identification of novel mammalian growth regulatory factors by genome-scale quantitative image analysis. Genome Res. 15: 1136-1144.
2. Xie, L., et al. 2005. Genomic and proteomic analysis of mammary tumors arising in transgenic mice. J. Proteome Res. 4: 2088-2098.
3. Inan, M.S., et al. 2006. Transcriptional profiling of granulosa cells from a patient with recurrent empty follicle syndrome. Reprod. Biomed. Online 13: 481-491.
4. Zhang, Y., et al. 2007. SIP, a novel ankyrin repeat containing protein, sequesters steroid receptor coactivators in the cytoplasm. EMBO J. 26: 2645-2657.
5. Bowden, N.A., et al. 2007. Gene expression profiling in familial adenomatous polyposis adenomas and desmoid disease. Hered. Cancer Clin. Pract. 5: 79-96.
6. Zhu, Y., et al. 2008. Kank proteins: a new family of ankyrin-repeat domain-containing proteins. Biochim. Biophys. Acta 1780: 128-133.

CHROMOSOMAL LOCATION

Genetic locus: KANK2 (human) mapping to 19p13.2.

PRODUCT

ANKRD25 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 ANKRD25 shRNA Plasmid (h): sc-97396-SH and ANKRD25 shRNA (h) Lentiviral Particles: sc-97396-V as alternate gene silencing products.

For independent verification of ANKRD25 (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-97396A, sc-97396B and sc-97396C.

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

ANKRD25 siRNA (h) is recommended for the inhibition of ANKRD25 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 ANKRD25 gene expression knockdown using RT-PCR Primer: ANKRD25 (h)-PR: sc-97396-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.