SANTA CRUZ BIOTECHNOLOGY, INC.

KLHDC9 siRNA (h): sc-78893

BACKGROUND

The BTB (broad-complex, tramtrack and bric a brac) domain, also known as the POZ (poxvirus and zinc finger) domain, is an N-terminal homodimerization domain that contains multiple copies of kelch repeats and/or C_2H_2-type zinc fingers. Proteins that contain BTB domains are thought to be involved in transcriptional regulation via control of chromatin structure and function. The Kelch domain-containing protein 9 (KLHDC9), also designated Kelch/ankyrin repeat-containing cyclin A1-interacting protein (KARCA1), contains 3 Kelch repeats and interacts with CCNA1. The gene encoding KLHDC9 maps to chromosome 1, the largest human chromosome spanning about 260 million base pairs and making up 8% of the human genome. Notably, the rare aging disease Hutchinson-Gilford progeria is associated with the LMNA gene of human chromosome 1, which encodes Lamin A. Aberrations in chromosome 1 are found in a variety of cancers including head and neck cancer, malignant melanoma and multiple myeloma.

REFERENCES

1. Bardwell, V.J., Treisman, R. 1994. The POZ domain: a conserved protein-protein interaction motif. Genes Dev. 8: 1664-1677.
2. Zollman, S., Godt, D., Prive, G.G., Couderc, J.L. and Laski, F.A. 1994. The BTB domain, found primarily in zinc finger proteins, defines an evolutionarily conserved family that includes several developmentally regulated genes in *Drosophila*. Proc. Natl. Acad. Sci. USA 91: 10717-10721.
3. Ahmad, K.F., Engel, C.K. and Prive, G.G. 1998. Crystal structure of the BTB domain from PLZF. Proc. Natl. Acad. Sci. USA 95: 12123-12128.
4. Diederichs, S., Bäumer, N., Ji, P., Metzelder, S.K., Idos, G.E., Cauvet, T., Wang, W., Möller, M., Pierschalski, S., Gromoll, J., Schrader, M.G., Koeffler, H.P., Berdel, W.E., Serve, H. and Müller-Tidow, C. 2004. Identification of interaction partners and substrates of the cyclin A1-Cdk2 complex. J. Biol. Chem. 279: 33727-33741.
5. Weise, A., Starke, H., Mrasek, K., Claussen, U. and Liehr, T. 2005. New insights into the evolution of chromosome 1. Cytogenet. Genome Res. 108: 217-222.
6. Marzin, Y., Jamet, D., Douet-Guilbert, N., Morel, F., Le Bris, M.J., Morice, P., Abgrall, J.F., Berthou, C. and De Braekeleer, M. 2006. Chromosome 1 abnormalities in multiple myeloma. Anticancer Res. 26: 953-959.
7. Gregory, S.G., Barlow, K.F., McLay, K.E., Kaul, R., Swarbreck, D., Dunham, A., Scott, C.E., Howe, K.L., Woodfine, K., Spencer, C.C., Jones, M.C., Gillson, C., Searle, S., Zhou, Y., Kokocinski, F., McDonald, L., Evans, R., et al. 2006. The DNA sequence and biological annotation of human chromosome 1. Nature 441: 315-321.

CHROMOSOMAL LOCATION

Genetic locus: KLHDC9 (human) mapping to 1q23.3.

PROTOCOLS

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

PRODUCT

KLHDC9 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 KLHDC9 shRNA Plasmid (h): sc-78893-SH and KLHDC9 shRNA (h) Lentiviral Particles: sc-78893-V as alternate gene silencing products.

For independent verification of KLHDC9 (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-78893A, sc-78893B and sc-78893C.

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

KLHDC9 siRNA (h) is recommended for the inhibition of KLHDC9 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 KLHDC9 gene expression knockdown using RT-PCR Primer: KLHDC9 (h)-PR: sc-78893-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.