SANTA CRUZ BIOTECHNOLOGY, INC.

EDRF1 siRNA (h): sc-90722

BACKGROUND

The tetratricopeptide repeat (TPR) motif is a degenerate, 34 amino acid sequence found in many proteins and acts to mediate protein-protein interactions in various pathways. At the sequence level, there can be up to 16 tandem TPR repeats, each of which has a helix-turn-helix shape that stacks on other TPR repeats to achieve ligand binding specificity. EDRF1 (erythroid differentiation-related factor 1), also known as C10orf137 (chromosome 10 open reading frame 137), is a 1,238 amino acid protein containing two TPR repeats. Localizing to nucleus, EDRF1 is involved in transcriptional activation of globin genes by regulating DNA-binding activity of GATA-1 transcription factor. EDRF1 may also play an important role in organ development and histological differentiation. EDRF1 exists as four alternatively spliced isoforms and is encoded by a gene mapping to human chromosome 10q26.13.

REFERENCES

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2. Wang, D., Li, Y. and Shen, B. 2001. Initial function analysis of a novel erythroid differentiation related gene EDRF1. Sci. China, C, Life Sci. 44: 489-496.
3. Wang, D., Shen, B. and Li, Y. 2001. A novel erythroid differentiation related gene EDRF1 upreguated globin gene expression in HEL cells. Zhonghua Yi Xue Za Zhi 81: 1512-1515.
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5. Wang, D., Ma, S., Wang, S. and Shen, B. 2002. Antisense EDRF1 gene inhibited GATA-1 transcription factor DNA-binding activity in K562 cells. Sci. China, C, Life Sci. 45: 289-297.
6. Deloukas, P., Earthrowl, M.E., Grafham, D.V., Rubenfield, M., French, L., Steward, C.A., Sims, S.K., Jones, M.C., Searle, S., Scott, C., Howe, K., Hunt, S.E., Andrews, T.D., Gilbert, J.G., Swarbreck, D., Ashurst, J.L., et al. 2004. The DNA sequence and comparative analysis of human chromosome 10. Nature 429: 375-381.
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CHROMOSOMAL LOCATION

Genetic locus: C10orf137 (human) mapping to 10q26.13.

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.

PRODUCT

EDRF1 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 EDRF1 shRNA Plasmid (h): sc-90722-SH and EDRF1 shRNA (h) Lentiviral Particles: sc-90722-V as alternate gene silencing products.

For independent verification of EDRF1 (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-90722A, sc-90722B and sc-90722C.

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

EDRF1 siRNA (h) is recommended for the inhibition of EDRF1 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 EDRF1 gene expression knockdown using RT-PCR Primer: EDRF1 (h)-PR: sc-90722-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.