SANTA CRUZ BIOTECHNOLOGY, INC.

Rex-1 siRNA (m): sc-61461

BACKGROUND

Rex-1 (for reduced expression), also designated zinc finger protein 42 (ZFP42), is an acidic zinc finger protein. Rex-1 contains four repeats of the zinc finger nucleic acid-binding motif and a potential acidic activator domain, suggesting that it is a regulatory protein. Rex-1 localizes to the nucleus and is highly expressed in embryonic stem (ES) and undifferentiated murine F9 teratocarcinoma cells. At the transcriptional level, expression of Rex-1 is reduced when F9 cells are induced to differentiate by the addition of retinoic acid (RA), and Rex-1 repression is enhanced by E1A. The Oct-3/4 transcription factor can either activate or repress the Rex-1 promoter, depending on the cellular environment, while Oct-6 can lower the expression of Rex-1.

REFERENCES

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2. Hosler, B.A., et al. 1993. An octamer motif contributes to the expression of the retinoic acid-regulated zinc finger gene Rex-1 (ZFP42) in F9 teratocarcinoma cells. Mol. Cell. Biol. 13: 2919-2928.
3. Ben-Shushan, E., et al. 1998. Rex-1, a gene encoding a transcription factor expressed in the early embryo, is regulated via Oct-3/4 and Oct-6 binding to an octamer site and a novel protein, Rox-1, binding to an adjacent site. Mol. Cell. Biol. 18: 1866-1878.
4. Henderson, J.K., et al. 2002. Preimplantation human embryos and embryonic stem cells show comparable expression of stage-specific embryonic antigens. Stem Cells 20: 329-337.
5. Zhang, H., et al. 2005. Effect of nicotine on Oct-4 and Rex-1 expression of mouse embryonic stem cells. Reprod. Toxicol. 19: 473-478.
6. Fang, Z.F., et al. 2005. Human embryonic stem cell lines derived from the Chinese population. Cell Res. 15: 394-400.
7. Furue, M., et al. 2005. Leukemia inhibitory factor as an anti-apoptotic mitogen for pluripotent mouse embryonic stem cells in a serum-free medium without feeder cells. In Vitro Cell. Dev. Biol. Anim. 41: 19-28.

CHROMOSOMAL LOCATION

Genetic locus: Zfp42 (mouse) mapping to 8 A4.

PRODUCT

Rex-1 siRNA (m) 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 Rex-1 shRNA Plasmid (m): sc-61461-SH and Rex-1 shRNA (m) Lentiviral Particles: sc-61461-V as alternate gene silencing products.

For independent verification of Rex-1 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-61461A, sc-61461B and sc-61461C.

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

Rex-1 siRNA (m) is recommended for the inhibition of Rex-1 expression in mouse 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.

GENE EXPRESSION MONITORING

Rex-1 (F-1): sc-514643 is recommended as a control antibody for monitoring of Rex-1 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Rex-1 gene expression knockdown using RT-PCR Primer: Rex-1 (m)-PR: sc-61461-PR (20 µl, 428 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.

PROTOCOLS

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