SANTA CRUZ BIOTECHNOLOGY, INC.

IGFBP7 siRNA (m): sc-39594

BACKGROUND

The Insulin-like growth factor-binding proteins (IGFBPs) are a family of homologous proteins that have coevolved with the IGFs. They serve not only as shuttle molecules for the soluble IGFs, but also confer a level of regulation to the IGF signaling system. Physical association of the IGFBPs with IGF influences the bio-availability of the growth factors, as well as their concentration and distribution in the extracellular environment. In addition, the IGFBPs appear to have biological activity independent of the IGFs. Seven IGFBPs have been described, each differing in their tissue distribution, half-lives and modulation of IGF interactions with their receptors. IGFBP-7 is a secreted protein that binds both IGF-I and IGF-II with a relatively low affinity. It stimulates pros-tacyclin production and may also function as a growth-suppressing factor.

REFERENCES

1. Lee, J., et al. 1994. Structure and localization of the IGFBP-1 gene and its expression during liver regeneration. Hepatology 19: 656-665.
2. Schmid, C. 1995. Insulin-like growth factors. Cell Biol. Int. 19: 445-457.
3. Binoux, M. 1995. The IGF system in metabolism regulation. Diabete Metab. 21: 330-337.
4. Baxter, R.C. 1995. Insulin-like growth factor binding proteins as gluco-regulators. Metabolism 44: 12-17.
5. Kelley, K.M., et al. 1996. Insulin-like growth factor-binding proteins (IGFBPs) and their regulatory dynamics. Int. J. Biochem. Cell Biol. 28: 619-637.
6. Hathaway, C.L., et al. 1996. Differential expression of IGFBPs by normal and hypertrophic scar fibroblasts. J. Surg. Res. 60: 156-162.
7. Oh, Y., et al. 1996. Synthesis and characterization of insulin-like growth factor-binding protein (IGFBP)-7. Recombinant human mac25 protein specifically binds IGF-I and -II. J. Biol. Chem. 271: 30322-30325.

CHROMOSOMAL LOCATION

Genetic locus: Igfbp7 (mouse) mapping to 5 C3.3.

PRODUCT

IGFBP7 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 IGFBP7 shRNA Plasmid (m): sc-39594-SH and IGFBP7 shRNA (m) Lentiviral Particles: sc-39594-V as alternate gene silencing products.

For independent verification of IGFBP7 (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-39594A, sc-39594B and sc-39594C.

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

IGFBP7 siRNA (m) is recommended for the inhibition of IGFBP7 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor IGFBP7 gene expression knockdown using RT-PCR Primer: IGFBP7 (m)-PR: sc-39594-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.