SANTA CRUZ BIOTECHNOLOGY, INC.

IGFBPL1 siRNA (h): sc-92508

BACKGROUND

IGFBPL1 (Insulin-like growth factor-binding protein-like 1) is a secreted IGF (Insulin-like growth factor) binding protein that is known to contain an Ig-like C2-type (immunoglobulin-like) domain, an IGFBP N-terminal domain and a Kazal-like domain. IGF-binding proteins characteristically act to extend the half-life of IGFs and may influence the growth promoting effects of the IGFs. The interaction of IGFBPs with IGFs can affect cell surface receptors, specifically, IGFBPs may enhance or decrease a cells Insulin sensitivity. IGFBPL1 has been found to be down-regulated in multiple tumors and thus may be a likely tumor suppressor candidate. Highly expressed in both brain and testis, IGFBPL1 is found at lower levels in the prostate, bladder and lung.

REFERENCES

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2. Cai, Z., et al. 2005. Identification of a novel Insulin-like growth factor binding protein gene homologue with tumor suppressor like properties. Biochem. Biophys. Res. Commun. 331: 261-266.
3. Siwanowicz, I., et al. 2005. Structural basis for the regulation of Insulin-like growth factors by IGF binding proteins. Structure 13: 155-167.
4. Smith, P., et al. 2007. Epigenetic inactivation implies independent functions for Insulin-like growth factor binding protein (IGFBP)-related protein 1 and the related IGFBPL1 in inhibiting breast cancer phenotypes. Clin. Cancer Res. 13: 4061-4068.
5. Bradley, L.M., et al. 2008. Role of the Insulin-like growth factor system on an estrogen-dependent cancer phenotype in the MCF-7 human breast cancer cell line. J. Steroid Biochem. Mol. Biol. 109: 185-196.
6. Verheus, M., et al. 2009. IGF1, IGFBP1, and IGFBP3 genes and mammographic density: the Multiethnic Cohort. Int. J. Cancer 127: 1115-1123.
7. Taverne, C.W., et al. 2010. Common genetic variation of Insulin-like growth factor-binding protein 1 (IGFBP-1), IGFBP-3, and acid labile subunit in relation to serum IGF-I levels and mammographic density. Breast Cancer Res. Treat. 123: 843-855.

CHROMOSOMAL LOCATION

Genetic locus: IGFBPL1 (human) mapping to 9p13.1.

PRODUCT

IGFBPL1 siRNA (h) is a pool of 2 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 IGFBPL1 shRNA Plasmid (h): sc-92508-SH and IGFBPL1 shRNA (h) Lentiviral Particles: sc-92508-V as alternate gene silencing products.

For independent verification of IGFBPL1 (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-92508A and sc-92508B.

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

IGFBPL1 siRNA (h) is recommended for the inhibition of IGFBPL1 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.

GENE EXPRESSION MONITORING

IGFBPL1 (C-5): sc-398875 is recommended as a control antibody for monitoring of IGFBPL1 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 IGFBPL1 gene expression knockdown using RT-PCR Primer: IGFBPL1 (h)-PR: sc-92508-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.