SANTA CRUZ BIOTECHNOLOGY, INC.

Inhibin β-A siRNA (m): sc-39784

BACKGROUND

The TGFβ superfamily is composed of numerous growth and differentiation factors, including transforming growth factor β (TGFβ) 1, 2 and 3; growth/differentiation factor (GDF) 1 through 8; Mullerian inhibiting substance (MIS); bone morphogenic protein (BMP) 2 through 8; glial cell line-derived neurotrophic factor (GDNF); inhibins (α, β-A, β-B and β-C), Lefty and Nodal. Members of the TGFβ superfamily are involved in embryonic development and adult tissue homeostasis. Inhibins and activins inhibit and activate, respectively, the secretion of follitropin by the pituitary gland. Inhibins and activins are involved in regulating a number of functions such as hypothalamic and pituitary hormone secretion, gonadal hormone secretion, germ cell development and maturation, erythroid differentiation, Insulin secretion, nerve cell survival, embryonic axial development or bone growth depending on their subunit composition. Activins oppose the funtions of inhibins. Inhibins are predominantly expressed in liver, uterus and ovary tissue. Inhibin A, a dimer of α and β-A, and inhibin B, a dimer of α and β-B, have been shown to inhibit the secretion of follicle stimulating hormone. Inhibin β-C forms a homodimer and its expression is predominant in adult liver.

REFERENCES

1. Stewart, A.G., et al. 1986. Human inhibin genes. Genomic characterisation and sequencing. FEBS Lett. 206: 329-334.
2. Mayo, K.E., et al. 1986. Inhibin A-subunit cDNAs from porcine ovary and human placenta. Proc. Natl. Acad. Sci. USA 83: 5849-5853.
3. Massague, J., et al. 1987. Multiple type-β transforming growth factors and their receptors. J. Cell. Physiol. Suppl. 5: 43-47.
4. Massague, J. 1990. The transforming growth factor-β family. Annu. Rev. Cell Biol. 6: 597-641.
5. Albano, R.M., et al. 1993. Activins are expressed in preimplantation mouse embryos and in ES and EC cells and are regulated on their differentiation. Development 117: 711-723.
6. Schmitt, J., et al. 1996. Structure, chromosomal localization and expression analysis of the mouse inhibin/activin β C (Inhβc) gene. Genomics 32: 358-366.

CHROMOSOMAL LOCATION

Genetic locus: Inhba (mouse) mapping to 13 A1.

PRODUCT

Inhibin β-A 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 Inhibin β-A shRNA Plasmid (m): sc-39784-SH and Inhibin β-A shRNA (m) Lentiviral Particles: sc-39784-V as alternate gene silencing products.

For independent verification of Inhibin β-A (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-39784A, sc-39784B and sc-39784C.

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

Inhibin β-A siRNA (m) is recommended for the inhibition of Inhibin β-A 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

Inhibin β-A (E-1): sc-166503 is recommended as a control antibody for monitoring of Inhibin β-A 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 Inhibin β-A gene expression knockdown using RT-PCR Primer: Inhibin β-A (m)-PR: sc-39784-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.