SANTA CRUZ BIOTECHNOLOGY, INC.

Inhibin α siRNA (h): sc-39781

BACKGROUND

Inhibin is a gonadal protein that preferentially suppresses the secretion of pituitary follicle-stimulating hormone (FSH). Inhibin comprises two subunits, Inhibin A and Inhibin B. Each subunit consists of the same α subunit, covalently linked to 1 of 2 distinct subunits, β-α or β-β. Originally isolated from ovarian follicular fluid and characterized as a disulphide-linked dimeric glycoprotein, inhibin belongs to the transforming growth factor β (TGFβ) superfamily of growth and differentiation factors. TGFβ proteins affect a range of tissues and systems beyond their role in reproduction. In addition to their role in endocrine feedback in the reproductive sytem, inhibins subserve local regulatory roles in numerous extragonadal tissues, including brain, adrenal, bone marrow, placenta and, most notably, anterior pituitary. Inhibin α-subunit gene expression is down regulated in human prostate cancer, suggesting a tumor-suppressive role. The human Inhibin α gene maps to chromosome 2q35.

REFERENCES

1. Mayo, K.E., et al. 1986. Inhibin A-subunit cDNAs from porcine ovary and human placenta. Proc. Natl. Acad. Sci. USA 83: 5849-5853.
2. Kong, D.J., et al. 1995. Progress in the study of inhibin subunit gene expression and regulation in mammalian ovary. Sheng Li Ke Xue Jin Zhan 26: 204-208.
3. Knight, P.G. 1996. Roles of inhibins, activins, and follistatin in the female reproductive system. Front. Neuroendocrinol. 17: 476-509.
4. Mather, J.P., et al. 1997. Activins, inhibins, and follistatins: further thoughts on a growing family of regulators. Proc. Soc. Exp. Biol. Med. 215: 209-222.
5. Risbridger, G.P., et al. 2000. Role of activins in the male reproductive tract. Rev. Reprod. 5: 99-104.
6. Schmitt, J.F., et al. 2002. Hypermethylation of the inhibin α-subunit gene in prostate carcinoma. Mol. Endocrinol. 16: 213-220.
7. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 147380. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: INHA (human) mapping to 2q35.

PRODUCT

Inhibin α 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 Inhibin α shRNA Plasmid (h): sc-39781-SH and Inhibin α shRNA (h) Lentiviral Particles: sc-39781-V as alternate gene silencing products.

For independent verification of Inhibin α (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-39781A, sc-39781B and sc-39781C.

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 α siRNA (h) is recommended for the inhibition of Inhibin α 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

Inhibin α (D-4): sc-365439 is recommended as a control antibody for monitoring of Inhibin α 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 α gene expression knockdown using RT-PCR Primer: Inhibin α (h)-PR: sc-39781-PR (20 µl, 613 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.