

# LHR siRNA (h): sc-40105

## BACKGROUND

Lutropin (also designated luteinizing hormone) plays a role in spermatogenesis and ovulation by stimulating the testis and ovaries to produce steroids. Gonadotropin (also designated choriogonadotropin) production in the placenta maintains estrogen and progesterone levels during the first trimester of pregnancy. Ovaries and testis abundantly express luteinizing hormone/choriogonadotropin receptor (LHR) as a seven transmembrane, G protein-coupled receptor glycoprotein. LHR influences the protective effect of pregnancy and gonadotropin against breast cancer. The expression of LHR on breast carcinoma correlates in part to the degree of tumor differentiation. LHR-positive breast tumors occur more frequently in tumors with greater cell differentiation in premenopausal women. The gene encoding human LHR maps to chromosome 2p16.3.

## REFERENCES

1. Minegishi, T., et al. 1990. Cloning and sequencing of human LH/hCG receptor cDNA. *Biochem. Biophys. Res. Commun.* 172: 1049-1054.
2. Rousseau-Merck, M.F., et al. 1990. Localization of the human luteinizing hormone/choriogonadotropin receptor gene (LHCGR) to chromosome 2p21. *Cytogenet. Cell Genet.* 54: 77-79.
3. Vuhai-Luuthi, M.T., et al. 1990. Monoclonal antibodies against luteinizing hormone receptor. *Immunochemical characterization of the receptor.* *Endocrinology* 127: 2090-2098.
4. Hakola, K., et al. 1998. Recombinant forms of rat and human luteinizing hormone and follicle-stimulating hormone; comparison of functions *in vitro* and *in vivo*. *J. Endocrinol.* 158: 441-448.

## CHROMOSOMAL LOCATION

Genetic locus: LHCGR (human) mapping to 2p16.3.

## PRODUCT

LHR 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see LHR shRNA Plasmid (h): sc-40105-SH and LHR shRNA (h) Lentiviral Particles: sc-40105-V as alternate gene silencing products.

For independent verification of LHR (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-40105A, sc-40105B and sc-40105C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

LHR siRNA (h) is recommended for the inhibition of LHR 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  $\mu$ M in 66  $\mu$ l. 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

LHR (8G9A2): sc-293165 is recommended as a control antibody for monitoring of LHR 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-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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 LHR gene expression knockdown using RT-PCR Primer: LHR (h)-PR: sc-40105-PR (20  $\mu$ l, 474 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS

1. Chen, S.U., et al. 2010. Signal mechanisms of vascular endothelial growth factor and interleukin-8 in ovarian hyperstimulation syndrome: dopamine targets their common pathways. *Hum. Reprod.* 25: 757-767.
2. Chen, S.U., et al. 2010. Human chorionic gonadotropin up-regulates expression of myeloid cell leukemia-1 protein in human granulosa-lutein cells: implication of corpus luteum rescue and ovarian hyperstimulation syndrome. *J. Clin. Endocrinol. Metab.* 95: 3982-3992.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.