

Oxytocin-R siRNA (r): sc-270614

BACKGROUND

Oxytocin (OXT) is a pituitary hormone that has long been associated with uterine contraction during parturition and with milk ejection during nursing. Studies have suggested that oxytocin is also a neurotransmitter with reproductively important effects. The receptor for Oxytocin (OTR) is an integral membrane protein that is a member of the G protein-coupled receptor family. Uterine and cervical Oxytocin receptors are significantly up-regulated during gestation, via both endocrine and mechanical signals, suggesting that Oxytocin receptors may be involved in parturition. Inhibition of Oxytocin receptor synthesis by IFN- τ and IFN- α may be a mechanism for Oxytocin receptor suppression during early pregnancy.

REFERENCES

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- Rozen, F., et al. 1995. Structure, characterization, and expression of the rat Oxytocin receptor gene. *Proc. Natl Acad. Sci. USA* 92: 200-204.
- Wathes, D.C. and Lamming, G.E. 1995. The Oxytocin receptor, luteolysis and the maintenance of pregnancy. *J. Reprod. Fertil. Suppl.* 49: 53-67.
- Kimura, T., et al. 1996. Expression of Oxytocin receptor in human pregnant myometrium. *Endocrinology* 137: 780-785.
- Maggi, M., et al. 1996. Interferon- α downregulates expression of the Oxytocin receptor in cultured human myometrial cells. *Am. J. Physiol.* 271: E840-E846.
- Insel, T.R., et al. 1997. Central oxytocin and reproductive behaviors. *Rev. Reprod.* 2: 28-37.
- Ou, C.W., et al. 1998. Increased expression of the rat myometrial Oxytocin receptor messenger ribonucleic acid during labor requires both mechanical and hormonal signals. *Biol. Reprod.* 59: 1055-1061.

CHROMOSOMAL LOCATION

Genetic locus: Oxt (rat) mapping to 4q42.

PRODUCT

Oxytocin-R siRNA (r) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Oxytocin-R shRNA Plasmid (r): sc-270614-SH and Oxytocin-R shRNA (r) Lentiviral Particles: sc-270614-V as alternate gene silencing products.

For independent verification of Oxytocin-R (r) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-270614A and sc-270614B.

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

APPLICATIONS

Oxytocin-R siRNA (r) is recommended for the inhibition of Oxytocin-R expression in rat 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 μ M in 66 μ 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

Oxytocin-R (C-4): sc-515809 is recommended as a control antibody for monitoring of Oxytocin-R 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 κ BP-HRP: sc-516102 or m-IgG κ 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 κ BP-FITC: sc-516140 or m-IgG κ 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 Oxytocin-R gene expression knockdown using RT-PCR Primer: Oxytocin-R (r)-PR: sc-270614-PR (20 μ l). 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.