SANTA CRUZ BIOTECHNOLOGY, INC.

Oxytocin-R (N-19): sc-8103

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 upregulated 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

1. Kimura, T., et al. 1992. Structure and expression of a human oxytocin receptor. Nature 356: 526-529.
2. Rozen, F., et al. 1995. Structure, characterization, and expression of the rat oxytocin receptor gene. Proc. Natl Acad. Sci. USA 92: 200-204.
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4. Kimura, T., et al. 1996. Expression of oxytocin receptor in human pregnant myometrium. Endocrinology 137: 780-785.
5. Maggi, M., et al. 1996. Interferon-α downregulates expression of the oxytocin receptor in cultured human myometrial cells. Am. J. Physiol. 271: E840-E846.
6. Insel, T.R., et al. 1997. Central oxytocin and reproductive behaviours. Rev. Reprod. 2: 28-37.
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8. Umscheid, C.A., et al. 1998. Up-regulation of oxytocin receptor messenger ribonucleic acid and protein by estradiol in the cervix of ovariectomized rat. Biol. Reprod. 59: 1131-1138.

CHROMOSOMAL LOCATION

Genetic locus: OXTR (human) mapping to 3p25.3; Oxtr (mouse) mapping to 6 E3.

SOURCE

Oxytocin-R (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Oxytocin-R of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-8103 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Oxytocin-R (N-19) is recommended for detection of Oxytocin-R of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Oxytocin-R siRNA (h): sc-40154, Oxytocin-R siRNA (m): sc-40155, Oxytocin-R shRNA Plasmid (h): sc-40154-SH, Oxytocin-R shRNA Plasmid (m): sc-40155-SH, Oxytocin-R shRNA (h) Lentiviral Particles: sc-40154-V and Oxytocin-R shRNA (m) Lentiviral Particles: sc-40155-V.

Molecular Weight of Oxytocin-R: 66 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, MCF7 whole cell lysate: sc-2206 or HeLa whole cell lysate: sc-2200.

SELECT PRODUCT CITATIONS

1. Weston, G.C., et al. 2003. Myometrial microvascular endothelial cells express oxytocin receptor. BJOG 110: 149-156.
2. Caligioni, C.S., et al. 2007. Presence of oxytocin receptors in the gonadotrophin-releasing hormone (GnRH) neurones in female rats: a possible direct action of oxytocin on GnRH neurones. J. Neuroendocrinol. 19: 439-448.
3. Gutkowska, J. and Jankowski, M. 2008. Oxytocin revisited: it is also a cardiovascular hormone. J. Am. Soc. Hypertens. 2: 318-325.
4. Florian, M., et al. 2009. Oxytocin increases glucose uptake in neonatal rat cardiomyocytes. Endocrinology 151: 482-491.
5. Davis, T.L., et al. 2010. Progesterone inhibits oxytocin- and prostaglandin F2α-stimulated increases in intracellular calcium concentrations in small and large ovine luteal cells. Biol. Reprod. 82: 282-288.
6. Jankowski, M., et al. 2010. Anti-inflammatory effect of oxytocin in rat myocardial infarction. Basic Res. Cardiol. 105: 205-218.
7. Authier, S., et al. 2010. Cardiovascular effects of oxytocin infusion in a porcine model of myocardial infarct. J. Cardiovasc. Pharmacol. 55: 74-82.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.