

# Relaxin Receptor 2 (G-14): sc-32850

## BACKGROUND

G protein-coupled receptors (GPRs) are a protein family of transmembrane receptors that transmit an extracellular signal (ligand binding) into an intracellular signal (G protein activation). Relaxin Receptor 2, also known as relaxin/insulin-like family peptide receptor 2, RXFP2, LGR8, GREAT, GPR106, INSL3R or RXFP2, is a leucine-rich repeat G protein-coupled receptor that binds Relaxins and INSL3 (insulin-like peptide 3). Expressed in brain, muscle, uterus, kidney, thyroid, testis, bone marrow and peripheral blood cells, Relaxin Receptor 2 localizes to the cell membrane and contains ten LRR (leucine-rich) repeats and an LDL-receptor class A domain. Upon Relaxin or INSL3 binding to Relaxin Receptor 2, adenylate (A) cyclase is activated, leading to an increased intracellular concentration of cAMP. cAMP is a key intracellular regulator; it mediates the activities of numerous hormones and plays an important role in modulating cellular activity. Mutations in the gene encoding Relaxin Receptor 2 can lead to cryptorchidism (impaired testicular descent), a condition associated with a higher risk of infertility and testicular cancer.

## REFERENCES

- Overbeek, P.A., et al. 2001. A transgenic insertion causing cryptorchidism in mice. *Genesis* 30: 26-35.
- Gorlov, I.P., et al. 2002. Mutations of the GREAT gene cause cryptorchidism. *Hum. Mol. Genet.* 11: 2309-2318.
- Kumagai, J., et al. 2002. INSL3/Leydig Insulin-like peptide activates the LGR8 receptor important in testis descent. *J. Biol. Chem.* 277: 31283-31286.
- Hsu, S.Y., et al. 2002. Activation of orphan receptors by the hormone relaxin. *Science* 295: 671-674.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606655. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Ferlin, A., et al. 2003. The INSL3-LGR8/GREAT ligand-receptor pair in human cryptorchidism. *J. Clin. Endocrinol. Metab.* 88: 4273-4279.
- Muda, M., et al. 2005. Splice variants of the relaxin and INSL3 receptors reveal unanticipated molecular complexity. *Mol. Hum. Reprod.* 11: 591-600.
- Lesnik Oberstein, S.A., et al. 2006. Peters Plus syndrome is caused by mutations in B3GALT1, a putative glycosyltransferase. *Am. J. Hum. Genet.* 79: 562-566.
- Klonisch, T., et al. 2007. Relaxin-like ligand-receptor systems are autocrine/paracrine effectors in tumor cells and modulate cancer progression and tissue invasiveness. *Adv. Exp. Med. Biol.* 612: 104-118.

## CHROMOSOMAL LOCATION

Genetic locus: LGR8 (human) mapping to 13q13.1; Lgr8 (mouse) mapping to 5 G3.

## SOURCE

Relaxin Receptor 2 (G-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of Relaxin Receptor 2 of mouse 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-32850 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Relaxin Receptor 2 (G-14) is recommended for detection of Relaxin Receptor 2 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).

Relaxin Receptor 2 (G-14) is also recommended for detection of Relaxin Receptor 2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Relaxin Receptor 2 siRNA (h): sc-40179, Relaxin Receptor 2 siRNA (m): sc-40180, Relaxin Receptor 2 shRNA Plasmid (h): sc-40179-SH, Relaxin Receptor 2 shRNA Plasmid (m): sc-40180-SH, Relaxin Receptor 2 shRNA (h) Lentiviral Particles: sc-40179-V and Relaxin Receptor 2 shRNA (m) Lentiviral Particles: sc-40180-V.

Molecular Weight (predicted) of Relaxin Receptor 2: 86 kDa.

Molecular Weight (observed) of Relaxin Receptor 2: 103 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.