

# GPR14 (H-90): sc-20940

## BACKGROUND

GPR14 (G protein-coupled receptor), also designated SENR (sensory epithelium neuropeptide-like receptor), was initially cloned as an "orphan" receptor, which is a receptor that binds an unidentified natural ligand. Further studies have shown that urotensin II (UII), a cyclic neuropeptide, binds to GPR14 with very high affinity. Subsequently, cells transfected with GPR14 experience an increase in calcium concentration upon binding of urotensin II. It is the calcium influx and localization of GPR14 in heart tissues that suggests GPR14 may play a role in the contraction of vascular smooth muscles in response to the specific binding of urotensin II. GPR14 is also detected in pancreas and, to a lesser extent, in brain tissues.

## REFERENCES

1. Coulouarn, Y., et al. 1998. Cloning of the cDNA encoding the urotensin II precursor in frog and human reveals intense expression of the urotensin II gene in motoneurons of the spinal cord. *Proc. Natl. Acad. Sci. USA* 95: 15803-15808.
2. Civelli, O. 1998. Functional genomics: the search for novel neurotransmitters and neuropeptides. *FEBS Lett.* 430: 55-58.
3. Nothacker, H.P., et al. 1999. Identification of the natural ligand of an orphan G protein-coupled receptor involved in the regulation of vasoconstriction. *Cell Biol.* 1: 383-385.
4. Ames, R.S., et al. 1999. Human urotensin-II is a potent vasoconstrictor and agonist for the orphan receptor GPR14. *Nature* 401: 282-286.
5. Mori, M., et al. 1999. Urotensin II is the endogenous ligand of a G protein-coupled orphan receptor, SENR (GPR14). *Biochem. Biophys. Res. Commun.* 265: 123-129.
6. Coulouarn, Y., et al. 1999. Cloning, sequence analysis and tissue distribution of the mouse and rat urotensin II precursors. *FEBS Lett.* 457: 28-32.

## CHROMOSOMAL LOCATION

Genetic locus: UTS2R (human) mapping to 17q25.3.

## SOURCE

GPR14 (H-90) is a rabbit polyclonal antibody raised against amino acids 10-90 of GPR14 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.

## STORAGE

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

## PROTOCOLS

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

## APPLICATIONS

GPR14 (H-90) is recommended for detection of GPR14 of 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 GPR14 siRNA (h): sc-106799, GPR14 shRNA Plasmid (h): sc-106799-SH and GPR14 shRNA (h) Lentiviral Particles: sc-106799-V.

Molecular Weight of glycosylated GPR14: 60 kDa.

Molecular Weight of deglycosylated GPR14: 42 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS

1. d'Emmanuele di Villa Bianca, R., et al. 2010. Urotensin II: a novel target in human corpus cavernosum. *J. Sex. Med.* 7: 1778-1786.
2. Bianca, R.d., et al. 2012. Endogenous urotensin II selectively modulates erectile function through eNOS. *PLoS ONE* 7: e31019.
3. Yi, K., et al. 2012. Effects of urotensin II on functional activity of late endothelial progenitor cells. *Peptides* 33: 87-91.

## RESEARCH USE

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



Try **GPR14 (D-4): sc-514460** or **GPR14 (D-1): sc-515569**, our highly recommended monoclonal alternatives to GPR14 (H-90).