

Product Specification Sheet

GPR14(U1I receptor) Antibodies

Cat. GPR14-S	Rabbit Anti-Rat GPR14 Antiserum	SIZE: 100 ul
Cat. GPR14-A	Rabbit Anti- Rat GPR14 IgG (aff pure)	SIZE: 100 ug
Cat. GPR14-P	Rat GPR14 Control peptide	SIZE: 100 ug

Urotensins are neuropeptide secreted from the urophysis in the caudal neurosecretory system of the fishes. Two bioactive Urotensins, U1 and U1I have been cloned from various species including mammals. U1 is 41 aa peptide, which showed prolonged hypotensive effects in mammals. It is structurally similar to mammalian corticotropin-releasing factor. **U1I** is a vasoactive 'somatostatin-like' 12-aa cyclic peptide with similarity to somatostatin-14. Human U1I is composed of only 11 aa residues, while fish and frog U1I possess 12 and 13 aa, respectively. The cyclic region of the U1I, which is responsible for the biological activity of the peptide, has been fully conserved from fish to human. U1I expression has been observed predominantly in the spinal cord.

Recently, an orphan human G-protein coupled receptor homologous to rat GPR14 has been identified as the receptor for U1I (2). **GPR14** is expressed predominantly in cardiovascular tissue. Human U1I effectively stimulated total peripheral resistance in anesthetized non-human primates, a response associated with profound cardiac contractile dysfunction. GPR14 (rat 386 aa and human 389 aa, ~75% homology) contains 7 transmembrane domains. It is most closely related to somatostatin receptor4. GPR14 is mostly expressed in the heart and pancreas, while low expression was detected in the brain.

Source of Antigen and Antibodies

Antigen	18-aa peptide of rat GPR14 (1) ; Designated (GPR14-P or control peptide) conjugated to KLH; Epitope location~ C-terminal, Cytoplasmic domain
Ab Host/type	Rabbit unpurified antiserum # GPR14-S and, Polyclonal IgG, purified over antigen-agarose (Cat # GPR14-A) supplied in PBS+0.1% BSA+0.05% azide
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control IgG	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)
100ul solution lyophilized powder
Supplied 0.05% azide, **Reconstitute** powder in 100 ul PBS

Affinity pure IgG
100 ug/100ul solution lyophilized powder
Supplied in **Buffer:** PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide

100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS pH 7.5,

Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials at -20OC and powder at 4oC or -20oC..

Long-term: at -20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20oC or below.

Shipping: 4oC for solutions and room temp for powder

Recommended Usage

Western Blotting (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure using ECL technique). See refs 2.

ELISA (1:10K-1:100K; using 50-100 ng control peptide/well).

Histochemistry & Immunofluorescence: see refs 2.

Specificity & Cross-reactivity

The 18 AA rat GPR14-P control peptide sequence is 100% conserved in mouse and 66% in human GPR14. No appreciable homology is seen with other GPCR. Antibody crossreactivity in various species is not established. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol at the web site).

General References: Coulouran Y et al (1999) FEBS Lett. 457, 28-32; Coulouran Y et al (1999) Proc. Natl. Acad. Sci. 95, 15803-15808; Ames RS et al (1999) Nature 401, 282-286; Marchese A et al (1995) Genomics 29, 335-344; Tal M et al (1995) BBRC 209, 752-759

(2) Citations of ADI's Antibodies (see web site for updated list)

Gong H 2004, J Appl Physiol, 97, 2228, WB, IF,

*This product is for in vitro research use only.

Related material available from ADI

Study distribution of proteins in 12 regions of rat/mouse brain using **ReadyBrain Blots**

GPR14-S-A-P 71208A

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