

Product Specification Sheet

Receptor Activity Modifying Proteins 2 (RAMP2) Antibodies

Cat. # RAMP21-P	Human RAMP2 control/blocking Peptides 1	SIZE: 100 ug
Cat. # RAMP21-S	Rabbit Anti-Human RAMP2 antiserum	SIZE: 100 ul
Cat. # RAMP21-A	Rabbit Anti-Human RAMP2 IgG (aff pure)	SIZE: 100 ug

The calcitonin family peptides probably act through G-protein coupled membrane receptors. The gene for calcitonin receptors has been cloned. It is homologous to GPCRs in family "B" which typically recognizes regulatory peptides (secretin, glucagons, VIP). Recently, a homolog of calcitonin receptor, **CRLR** (calcitonin-receptor-like receptor human 461 aa; rat/mouse 463 aa) was identified. CRLR has 55% homology with calcitonin receptor. It is now shown that CRLR can function as either a CGRP receptor or an ADM receptor, depending upon which members of a new family of proteins called receptor activity modifying proteins (**RAMP1-3**) are expressed. RAMPs1-3 contains an N-terminal signal peptide, an extracellular N-terminus, a single transmembrane domain near the C-terminus, and cytoplasmic C-terminus. RAMP1-3 displays 31% identity. RAMPs may be involved in the transport of CRLR to the plasma membrane. **RAMP1** (human, mouse, rat 148 aa) presents the CRLR receptor as a glycoprotein that function as CGRP receptor. RAMP1 is expressed in many tissues, including the uterus, bladder, brain, pancreas, and GI tract. CRLR and RAMP1 are not co-expressed in all tissues suggesting that their co-expression may define which cells express functional CGRP receptors. **RAMP2** (human 175 aa; rat 182 aa, and mouse 189 aa)-transported receptors are core-glycosylated and function as ADM receptor. It is expressed in the lung, breast, immune system and fetal tissues. **RAMP3** is most abundant in the kidney and lung.

FUNCTION: Transports the calcitonin gene-related peptide type 1 receptor (CALCRL) to the plasma membrane. Acts as a receptor for adrenomedullin (AM) together with CALCRL.
SUBCELLULAR LOCATION: Membrane; Single-pass type I membrane protein.

SIMILARITY: Belongs to the RAMP family.
Protein name Receptor activity-modifying protein 2 [Precursor]
Synonyms CRLR activity-modifying protein 2
Calcitonin-receptor-like receptor activity-modifying protein 2
Gene name Name: RAMP2

Source of Antigen and Antibodies

Antigen	20aa & 9aa peptide mixture of Human RAMP2 ; (protein accession #O60895 , refs 1) Designated (RAMP21-P) or blocking peptide conjugated to KLH; Epitope location ~ Middle region & C-terminus respectively
Ab Host/type	Rabbit, Polyclonal Aff pure IgG, (Cat # RAMP21-A) purified over the antigen column
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control	# 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 in Buffer: 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 1 mg/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 20°C and powder at 4°C or -20°C..

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

Stability: 6-12 months at -20°C or below.

Shipping: 4°C 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 antibody using ECL technique).

ELISA: Control peptide can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (1:10-50K for neat serum and 0.5-1 ug/ml for affinity pure).

Histochemistry & Immunofluorescence: Not tested. We recommend the use of affinity purified antibody at 2-20 ug/ml in paraformaldehyde fixed sections of tissues.

Specificity & Cross-reactivity

Human RAMP21-P (Mid-region 20aa & ~C-terminus 9-aa) peptides are 50% and 89% conserved in mouse and rat RAMP2, respectively. However, no significant sequence homology is detected with other RAMPs. Antibody cross-reactivity in various species has not been studied. The RAMP21-P 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

General References:

(1). McLatchie LM et al (1998) Nature 393, 333-339; Nagae T et al (2000) BBRC 270, 89-93; Chakravarty p et al (2000) Br J. Pharmacol. 130, 189-195; Aldecoa A et al (2000) FEBS Lett. 471, 156-160; Husmann, K et al (2000); Mol Cell Endocrinol (2000) 162, 35-43.

Citations of ADI's antibodies for CRLR and RAMP (see updated list at: www.4adi.com/flr/rampflr.html)

*This product is for In vitro research use only.

Related material available from ADI

Antibodies RAMP1-3, calcitonin, CGRP, Adrenomedullin, CRLR
RAMP21-S-A-P 709113J

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