ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Calcitonin Antibodies

Cat. # CT11-P	Human Calcitonin Control Peptide # 1 **FORM:** Soln Lyophilized	**SIZE**: 100 ug
Cat. # CT11-A	**Goat** Anti-Human Calcitonin Ig G # 1, affinity pure **FORM**: Soln Lyophilized.	**SIZE**: 100 ug

The calcitonin family of bioactive peptides comprises of **calcitonin**, **amylin**, two calcitonin-gene related peptides (**CGRP1**, and **CGRP2**) and adrenomedullin (**ADM**). **Calcitonin** is 32 aa peptide found in the parafollicular "C" cells of the thyroid in mammals. It is also found in a number of non-mammals. It regulated the mineral (calcium and phosphate) balance. Calcitonin causes hypercalcemia by acting as an inhibitor of osteoclast induced bone resorption. **CGRP** is a 37-aa peptide produced by tissue specific processing of the calcitonin gene. Calcitonin is the major product in the thyroid, whereas CGRP is the major product in neural tissues. CGRP is a potent cardiovascular agent. It has structural similarity with amylin. CGRP is found in two isoforms (CGRP-I and CGRP-II) that differs only by 3 amino acids. **Amylin** is a 37-aa peptide produced in the pancreatic beta-cell secretory granules and is co-released with insulin. Amylin also has CGRP-like effects on bone metabolism. Amylin has specific binding sites in the CNS and it may regulate gastric emptying and influence carbohydrate metabolism. **Adrenomedullin** (ADM) is a 52-aa hypotensive peptide. It has structural similarity with CGRP and amylin. ADM is produced in peripheral tissues, adrenal medulla, lung, and kidney. ADM has specific receptors on astrocytes and it is unregulated in ischaemia. The calcitonin family peptides probably act through G-protein coupled membrane receptors. Recently, a homolog of calcitonin receptor, **CRLR** (calcitonin-receptor-like receptor human 461 aa; rat/mouse 463 aa) was identified. 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.

Source of Antigen and Antibodies

Antigen	18aa peptide of Human Calcitonin; **Designated (CT11-P or control peptide). Epitope location** ~ N-terminus
Ab Host/type	Goat, polyclonal Aff pure IgG (**cat #CT11-A**) purified over the antigen column
2ab	Anti-Goat IgG (H+L chain sp.)-HRP conjugate
-ve control	# 20011-1, goat (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control

Form & Storage of Antibodies/Peptide Control

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 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 (1-10 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 (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

The human CT11-P is quite conserved in various species: mouse, rat, rabbit (94%), horse, canine (70-80%), pig, chicken sheep, canine, zebra fish (50-70%). However, no significant sequence homology is detected with other calcitonin family of peptides. Antibody cross-reactivity in various species has not been studied. The CT11-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 (see detailed protocol at:the web site).

General References:

(1). Le Moullec JM et al (1984) FEBS lett. 167,93; Nelkin, BD et al (1984) BBRC 1123, 648; Edbrooke MR et al (1985) EMBo J. 4, 715-724; Jonas V et al (1985) PNAS 82, 1994; Riley, JH et al (1986) FEBS lett. 198, 71; Broad PM et al (19890 Nucl. Acid. Res. 17, 6999; Bracq S et al (1993) FEBS Lett. 331, 15; McLatchie LM et al (1998) Nature 393, 333-339.

Citations of ADI's antibodies for CRLR and RAMP (see updated list at: the web site)

*This product is for In vitro research use only.

Related material available from ADI

Antibodies RAMP1-3, Amylin, calcitonin, CGRP, Adrenomedullin, CRLR
Western blot Recycling Kit- Reuse blots in Just 5-10 min. (use the same strip for various RAMPS) New formulation will strip antibodies in just a few minutes at room temp. (no boiling or pungent mercaptoethanol).

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