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Product Specification Sheet

Calretinin (CR/CLB2/CALB2/Calbindin D29K) Antibodies

Cat. # CRN11-S | Goat Anti-Guinea. pig Calretinin antiserum # 1 | **SIZE**: 100 ul

Calcium (Ca+2 or Ca) is the most abundant cation and it is required for many physiological activities such as bone formation and it acts as a second messenger in signal transduction. However only 1% of Ca is present in ionic form in biological fluids. Ca concentration is regulated by calcitropic hormones that act on bone, kidney, and intestine. Extracellular Ca+-levels are sensed and regulated by Calcium Sensing receptor (CASR). When Ca levels are limiting then it must be taken up by active, transcellular pathways comprising (1) Ca^{++} entry across apical membrane, (2) cytosolic transport of Ca^{++} across the cell form apical to basolateral membrane facilitated by a family of low mol wt Calcium binding proteins (CABPs) that include vitamin D3-dependent **Ca^{++} binding proteins (calbindin-D9k, Calbindin-28k, Calretinin, Parvalbumin, S100, calmodulin)** and finally (3) an active extrusion of Ca^{++} through basolateral membrane mediated by **Ca^{++}-ATPase** and **Na^{+}-Ca^{++} exchangers (NCX).** Ca^{++} absorption in intestine and its reabsorption in kidney are carried out by Ca^{++} Transport (CaT) proteins, **CaT-1**, **CaT-2 or** Epithelial Ca Channel (**ECAC1**/**ECAC2**/CaT-Like (**CaT-L**) proteins.

Calbindins are Ca-binding proteins belonging to the troponin C superfamily. There are two types of CaBPs: the "trigger"- and the "buffer"-CaBPs. The conformation of "trigger" type CaBPs changes upon Ca2+ binding and exposes regions on protein that interact with target molecules, thus altering their activity. The buffer-type CABP are thought to control the intracellular calcium concentration. **Calretinin/CR/CLB2/CALB2/Calbindin D29K** protein (mouse/rat/human 271 aa, chromosome 16q22.1, mol wt ~29 kDa) also belongs to the Calbindin family. It is most closely related to CABP28K (~55% identity). It may be alternatively spliced to a C-terminally truncated fragment, Calretinin-22K in some tumor cell lines. Calretinin is highly expressed in the cerebellum, olfactory bulb, and in auditory neurons. Calretinin gene inactivation in mice eliminated long-term potentiation induction in the gentate gyrus and impaired motor coordination.

Source of Antigen and Antibodies

Antigen	Purified guinea. pig Calretinin
Ab Host/type	**polyclonal** antibodies in **goats**. **Cat # CRN11-S**
2-ab	Anti-Goat IgG (H+L chain sp.)-FITC conjugate cat # 30220
-ve control	# 20011-1, goat (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

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 (1:2K-5K) for antiserum using Chemiluminescence technique. CR is ~31 kDa.

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

Histochemistry & Immunofluorescence: IFA/PAP at 1:500-1:1K, PAP at .

Specificity & Cross-reactivity

The anti-g. pig CR reacts with g. pig, human, mouse, and rat CR. No significant reactivity is seen with other CABPs. Antibody reactivity in various other species is not known.

General References: (1) Perret C et al (1988) Eur. J. Biochem. 172, 43-51; Howard A et al (1992) BBRC 185, 663-669; Jeung EB et al (1992) FEBS Lett. 307, 224-228; Jeung EB et al (1994) J. Mol. Biol. 235, 1231-1238; Colnot S et al (1998) JBC 273, 31939-31946;

**This product is for In vitro research use only.*

Related materials available from ADI

Antibodies: CaT-1/2; Calbindins, S100, Parvalbumin, Calretinin

CRN11-S 71216S

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