

Product Specification Sheet

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

Cat. # CRN12-M

Mouse Monoclonal Anti-Rat Calretinin IgG # 2 (aff pure)

SIZE: 100 ul

Calcium (Ca²⁺ 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 Ca²⁺-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) Ca²⁺ entry across apical membrane, (2) cytosolic transport of Ca²⁺ across the cell from apical to basolateral membrane facilitated by a family of low mol wt Calcium binding proteins (CABPs) that include vitamin D3-dependent Ca²⁺ binding proteins (calbindin-D9k, Calbindin-28k, Calretinin, Parvalbumin, S100, calmodulin) and finally (3) an active extrusion of Ca²⁺ through basolateral membrane mediated by Ca²⁺-ATPase and Na⁺-Ca²⁺ exchangers (NCX). Ca²⁺ absorption in intestine and its reabsorption in kidney are carried out by Ca²⁺ 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 dentate gyrus and impaired motor coordination.

Source of Antigen and Antibodies

Antigen	Purified rat calretinin
Ab Host/type	mouse monoclonal (IgG1). Calretinin clone was expanded as mouse ascites. Antibody has been affinity purified. Cat. # CRN12-M
2-ab	Cat # 40320, goat anti-mouse IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control	# 20008-1, Mouse (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

Form & Storage of Antibodies/Peptide Control

Ascites (purified)

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

Anti rat-CR reacts with mouse and human CR. No significant reactivity is seen with other CABPs. Antibody reactivity in various other species is not known.

General References: (1) Parmentier M et al (1989) Adv. Exp. Med. Biol. 255, 233-240; Chen LZ et al (1991) Genomics 10, 308-312; Parmentier M et al (1989) Cytogenet. Cell Genet. 52, 85-87; Schiffmann SN et al (1999) PNAS 96, 5257-5262; Schwaller B et al (1997) JBC 272, 29663-29371

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

Related materials available from ADI

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

CRN12-M

71216S

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