

# Calretinin

Prediluted Polyclonal Antibody  
901-092-013023

**BIOCARE**  
M E D I C A L

| Available Product Formats    |                |             |              |         |
|------------------------------|----------------|-------------|--------------|---------|
| Format                       | Catalog Number | Description | Dilution     | Diluent |
| Q Series— For Leica BOND-III | ALI 092 G7     | 7.0 mL      | Ready-to-use | N/A     |

## Intended Use:

For In Vitro Diagnostic Use

Calretinin is a rabbit polyclonal antibody that is intended for laboratory use in the qualitative identification of Calretinin protein by immunohistochemistry (IHC) in formalin-fixed paraffin-embedded (FFPE) human tissues. The clinical interpretation of any staining or its absence should be complemented by morphological studies using proper controls and should be evaluated within the context of the patient's clinical history and other diagnostic tests by a qualified pathologist.

## Summary and Explanation:

Calretinin is a calcium binding protein that is related to calmodulin and calbindin-D28k and is found mainly in neuronal tissue. It is present in subsets of neurons throughout the brain and spinal cord, including sensory ganglia. Studies have shown that Calretinin, like calbindin, may be neuroprotective. Immunohistochemical studies have also recently shown Calretinin to be useful in distinguishing mesotheliomas from lung adenocarcinomas. However, it is recommended that a panel of antibodies be used in tandem with Calretinin. Other antibodies recommended are CK 5/6, E-cadherin, WT-1, CEA, B72.3, Vimentin and D2-40. Calretinin may not stain all mesotheliomas.

## Principle of Procedure:

Antigen detection in tissues and cells is a multi-step immunohistochemical process. The initial step binds the primary antibody to its specific epitope. After labeling the antigen with a primary antibody, a one-step or two-step detection procedure can be applied. A one-step procedure will feature an enzyme labeled polymer that binds the primary antibody. A two-step procedure will feature a linker antibody added to bind to the primary antibody. An enzyme-labeled polymer is then added to bind the linker antibody. These detections of the bound antibodies are evidenced by a colorimetric reaction.

**Source:** Rabbit polyclonal

**Species Reactivity:** Human

**Clone:** N/A

**Isotype:** N/A

**Protein Concentration:** Call for lot specific Ig concentration.

**Epitope/Antigen:** Calretinin

**Cellular Localization:** Nuclear and cytoplasmic

**Positive Tissue Control:** Mesothelioma

## Known Applications:

Immunohistochemistry (formalin-fixed paraffin-embedded tissues)

**Supplied As:** Buffer with protein carrier and preservative

## Storage and Stability:

Store at 2°C to 8°C. The product is stable to the expiration date printed on the label, when stored under these conditions. Do not use after expiration date. Diluted reagents should be used promptly; any remaining reagent should be stored at 2°C to 8°C.

## Protocol Recommendations (Q Series – For Leica BOND-III):

ALI092 is intended for use with the Leica BOND-III. Refer to the User Manual for specific instructions for use. Recommended protocol parameters are as follows:

**Protocol Name:** IHC Protocol F + Blocker

**Detection:** Bond Polymer Refine

**HIER:** 20 min with ER2

**Peroxide Block:** 5 min

**Background Block:** 10 min

**Marker (Primary Antibody):** 15 min

**Post Primary:** 8 min

**Polymer:** 8 min

**Mixed DAB Refine:** 10 min

**Hematoxylin:** 5 min

## Limitations:

The optimum antibody dilution and protocols for a specific application can vary. These include, but are not limited to fixation, heat-retrieval method, incubation times, tissue section thickness and detection kit used. Due to the superior sensitivity of these unique reagents, the recommended incubation times and titers listed are not applicable to other detection systems, as results may vary. The data sheet recommendations and protocols are based on exclusive use of Biocare products. Ultimately, it is the responsibility of the investigator to determine optimal conditions.

## Quality Control:

Refer to CLSI Quality Standards for Design and Implementation of Immunohistochemistry Assays; Approved Guideline-Second edition (I/LA28-A2) CLSI Wayne, PA USA ([www.clsi.org](http://www.clsi.org)). 2011

## Precautions:

1. This antibody contains less than 0.1% sodium azide. Concentrations less than 0.1% are not reportable hazardous materials according to U.S. 29 CFR 1910.1200, OSHA Hazard communication and EC Directive 91/155/EC. Sodium azide (NaN<sub>3</sub>) used as a preservative is toxic if ingested. Sodium azide may react with lead and copper plumbing to form highly explosive metal azides. Upon disposal, flush with large volumes of water to prevent azide build-up in plumbing. (Center for Disease Control, 1976, National Institute of Occupational Safety and Health, 1976)<sup>6</sup>
2. Specimens, before and after fixation, and all materials exposed to them should be handled as if capable of transmitting infection and disposed of with proper precautions. Never pipette reagents by mouth and avoid contacting the skin and mucous membranes with reagents and specimens. If reagents or specimens come into contact with sensitive areas, wash with copious amounts of water.<sup>7</sup>
3. Microbial contamination of reagents may result in an increase in nonspecific staining.
4. Incubation times or temperatures other than those specified may give erroneous results. The user must validate any such change.
5. Do not use reagent after the expiration date printed on the vial.
6. The SDS is available upon request and is located at <http://biocare.net>.

## Troubleshooting:

Follow the antibody specific protocol recommendations according to data sheet provided. If atypical results occur, contact Biocare's Technical Support at 1-800-542-2002.

## References:

1. Nagel H, *et al.* The value of anti-calretinin antibody in the differential diagnosis of normal and reactive mesothelia versus metastatic tumors in effusion cytology. *Pathol Res Pract.* 1998; 194(11):759-64.
2. Ordonez NG. Value of calretinin immunostaining in differentiating epithelial mesothelioma from lung adenocarcinoma. *Mod Pathol.* 1998 Oct; 11(10):929-33.
3. Leers MP, Aarts MM, Theunissen PH. E-cadherin and calretinin: a useful combination of immunochemical markers for differentiation between mesothelioma and metastatic adenocarcinoma. *Histopathology.* 1998 Mar; 32(3):209-16.
4. Riera JR, *et al.* The immunohistochemical diagnostic panel for epithelial mesothelioma: a reevaluation after heat-induced epitope retrieval. *Am J Surg Pathol.* 1997 Dec; 21(12):1409-19.
5. Gotzos V, Vogt P, Celio MR. The calcium binding protein calretinin is a selective marker for malignant pleural mesotheliomas of the epithelial type. *Pathol Res Pract.* 1996 Feb; 192(2):137-47.
6. Center for Disease Control Manual. Guide: Safety Management, NO. CDC-22, Atlanta, GA. April 30, 1976 "Decontamination of Laboratory Sink Drains to Remove Azide Salts."
7. Clinical and Laboratory Standards Institute (CLSI). Protection of Laboratory Workers from Occupationally Acquired Infections; Approved Guideline-Fourth Edition CLSI document M29-A4 Wayne, PA 2014.



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