



# BMA BIOMEDICALS

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## Monoclonal Antibody to Human CD143 Angiotensin Converting Enzyme ACE, Peptidyl Dipeptidase A

Monoclonal antibody CG2 recognizes human Angiotensin Converting Enzyme (ACE). ACE is a carboxyl dipeptidase that generates the vasoactive peptide angiotensin II by cleaving two amino acids off the C-terminus of the inactive precursor angiotensin I. The other important peptide substrate of ACE is the vasodilator peptide bradykinin, which is degraded by ACE into an inactive peptide.

The relatively unspecific peptidase activity of ACE has been implicated in the regulation of the immune system as well, in that it participates in the processing of peptides in antigen presenting cells for loading onto MHC class I antigens. In mice, ACE has been shown to contribute to renal development and male fertility.

***This antibody was produced serum-free, without fetal calf serum.***

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### TECHNICAL AND ANALYTICAL CHARACTERISTICS

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|-------------------------------|---------------------------------|
| <b>Product Number:</b>        | T-1129 (Lot 04PO1309)           |
| <b>Clone:</b>                 | CG2                             |
| <b>Host species, isotype:</b> | Mouse IgG1                      |
| <b>Quantity:</b>              | 200µg                           |
| <b>Format:</b>                | Affinity purified, lyophilized. |

Reconstitute by adding 0.5ml distilled water. This stock solution contains 0.4mg/ml IgG, phosphate buffered saline pH 7.2 (PBS), 5mg/ml bovine serum albumin (BSA) as a stabilizer and 0.1% (v/v) Kathon™ CG as a preservative.

**Stability:** Original vial: 1 year at 4° - 8°C from date of purchase.  
Stock solution and aliquots thereof: 1 year at -20°C. Avoid freeze-thaw cycles.

**Applications:** Tested for immunohistochemistry (IHC).

#### **Approximate working dilution for IHC:**

Frozen sections: does not work on routinely processed frozen sections

Paraffin sections: 8µg/ml (1:50); pretreatment in microwave with citrate buffer for antigen retrieval is recommended

Optimal dilutions should be determined by the end user

Suggested positive control: Human lung

Please see **[www.bma.ch](http://www.bma.ch)** for protocols and general information

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| <b>Immunogen:</b>            | Purified ACE from human lung and kidney.                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Protein database:</b>     | <u>human-P12821</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Antigen, epitope:</b>     | The antigen is CD143, the epitope is apparently localized in the N-terminal portion of the protein.                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Antigen distribution:</b> | <b>Tissue sections:</b> Topographically the degree of expression correlates with the proportion of smooth muscle cells and elastic fibres of the vessel wall. ACE is predominantly expressed by small muscular arteries and by arterioles, whereas small and large veins do not usually express ACE. However, no ACE could be detected in the endothelial cells of kidney. Constitutively ACE is expressed on endothelial cells in different diseases like hypertension, myocardial infarction, sarcoidosis, diabetes. |
| <b>Specificity:</b>          | <b>Human:</b> denatured ACE.<br><b>Other species:</b> does not react with porcine tissue.                                                                                                                                                                                                                                                                                                                                                                                                                              |

### **Selected references**

- Danilov, S.M. et al.: Structure-Function Analysis of Angiotensin I-converting Enzyme Using Monoclonal Antibodies J.Biol.Chem. **269**(43): 26806-26814 (1994).
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- Metzger R., Bohle R.M., Pauls K., Eichner G., Alhenc-Gelas F., Danilov S.M. and Franke F.E.: Angiotensin-converting enzyme in non-neoplastic kidney diseases. Kidney International (1999) 56, 1442–1454.
- Orte C, Polak JM, Haworth SG, Yacoub MH, Morrell NW.: Expression of pulmonary vascular angiotensin-converting enzyme in primary and secondary plexiform pulmonary hypertension. J Pathol. 2000 Nov;192(3):379-84.
- Röcken C, Neumann K, Carl-McGrath S, Lage H, Ebert MP, Dierkes J, Jacobi CA, Kalmuk S, Neuhaus P, Neumann U.: The gene polymorphism of the angiotensin I-converting enzyme correlates with tumor size and patient survival in colorectal cancer patients. Neoplasia. 2007 Sep;9(9):716-22.

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For in vitro research only. This product contains Kathon™ CG as a preservative.