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Carbonic Anhydrase 12 Recombinant Rabbit Monoclonal Antibody Product Datasheet

Catalog# BX50350
Clone# BP6318

Predicted Molecular Wt: 40kDa
Species Cross-reactivity: Human
Applications: IHC-P

Purity: ProA affinity purified IgG
Form: Liquid
Swissprot ID: O43570

Background:

Carbonic Anhydrase 12 (CA12) is a glycosylphosphatidylinositol (GPI)-anchored transmembrane enzyme that catalyzes the reversible hydration of carbon dioxide to bicarbonate and protons ($CO_2 + H_2O \rightleftharpoons HCO_3^- + H^+$), critically regulating extracellular pH homeostasis and ion transport.

Carbonic Anhydrase 12 (CA12) is predominantly expressed in kidney and endometrium. In tumor tissue, it is mainly expressed in breast cancer and renal cell carcinoma.

Carbonic Anhydrase 12 (CA12) serves as a clinically validated biomarker and therapeutic target in hormone-responsive carcinomas. Its overexpression, detected via immunohistochemistry (IHC) or serum assays, correlates strongly with breast cancer, clear cell renal cell carcinoma (ccRCC) and endometrial adenocarcinoma, where it drives tumor progression by acidifying the extracellular microenvironment.

Subcellular location:

Membrane and cytoplasm

Recommended Method:

Heat induced epitope retrieval with Tris-EDTA buffer (pH 9.0), primary antibody incubate at RT (18°C-25°C) for 30 minutes.

Immunogen:

Synthetic peptide. This information is proprietary to Biolynx.

Storage Buffer:

PBS 59%, Sodium azide 0.01%, Glycerol 40%, BSA 0.05%.

Storage Conditions:

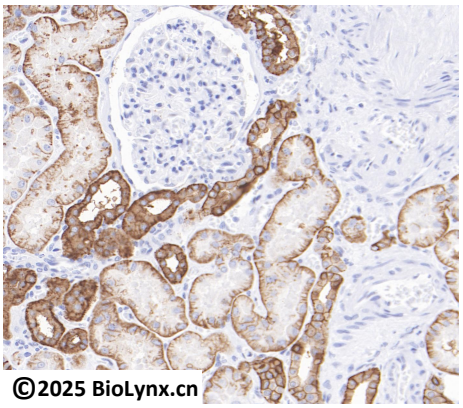
-25°C to -18°C

Shipment Instructions:

Shipped on blue ice. Upon delivery store at -25°C to -18°C. Avoid freeze / thaw cycles.

Recommended Dilution:

IHC-P: 1:100-1:200



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human kidney labelling Carbonic Anhydrase 12 with BP6318.

Background References:

1. Huang, S. et al. (2022) Cell Prolif 55:e13201.

2. Zhang, X. et al. (2021) Theranostics 11:5650-5674.

Product QC'd by:

For research use only. Not for use in diagnostic or therapeutic applications.