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Anti-Band 3 Picoband Antibody

Catalog # ABO12127

Specification

Anti-Band 3 Picoband Antibody - Product Information

Application	**WB, IHC-P, IHC-F**
Primary Accession	P02730
Host	**Rabbit**
Reactivity	**Human, Mouse, Rat**
Clonality	**Polyclonal**
Format	**Lyophilized**

Description
Rabbit IgG polyclonal antibody for Band 3 anion transport protein(SLC4A1) detection. Tested with WB, IHC-P, IHC-F in Human;Mouse;Rat.

Reconstitution
Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-Band 3 Picoband Antibody - Additional Information

Gene ID 6521

Other Names
Band 3 anion transport protein, Anion exchange protein 1, AE 1, Anion exchanger 1, Solute carrier family 4 member 1, CD233, SLC4A1, AE1, DI, EPB3

Calculated MW
101792 MW KDa

Application Details
Immunohistochemistry(Frozen Section), 0.5-1 µg/ml, Human, -
Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Mouse, Rat, By Heat
Western blot, 0.1-0.5 µg/ml, Human, Rat

Subcellular Localization
Cell membrane; Multi-pass membrane protein. Basolateral cell membrane; Multi-pass membrane protein. Detected in the erythrocyte cell membrane and on the basolateral membrane of alpha-intercalated cells in the collecting duct in the kidney.

Tissue Specificity
Detected in erythrocytes (at protein level). Erythrocytes. .

Protein Name
Band 3 anion transport protein

Contents
Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.

Immunogen

E. coli-derived human Band 3 (Position: E28-N365). Human Band 3 shares 75.7% and 74.5% amino acid (aa) sequence identity with mouse and rat Band 3, respectively.

Purification
Immunogen affinity purified.

Cross Reactivity
No cross reactivity with other proteins

Storage	**At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.**

Sequence Similarities
Belongs to the anion exchanger (TC 2.A.31) family.

Anti-Band 3 Picoband Antibody - Protein Information

Name SLC4A1 (HGNC:11027)

Synonyms AE1, DI, EPB3

Function
Functions both as a transporter that mediates electroneutral anion exchange across the cell membrane and as a structural protein (PubMed:10926824, PubMed:14734552, PubMed:1538405, PubMed:16227998, PubMed:20151848, PubMed:24121512, PubMed:28387307, PubMed:35835865). Component of the ankyrin-1 complex of the erythrocyte membrane; required for normal flexibility and stability of the erythrocyte membrane and for normal erythrocyte shape via the interactions of its cytoplasmic domain with cytoskeletal proteins, glycolytic enzymes, and hemoglobin (PubMed:1538405, PubMed:20151848, PubMed:35835865). Functions as a transporter that mediates the 1:1 exchange of inorganic anions across the erythrocyte membrane. Mediates chloride-bicarbonate exchange in the kidney, and is required for normal acidification of the urine (PubMed:10926824, PubMed:14734552, PubMed:16227998, PubMed:24121512, PubMed:28387307).

Cellular Location
Cell membrane; Multi-pass membrane protein. Basolateral cell membrane; Multi-pass membrane protein. Note=Detected in the erythrocyte cell membrane and on the basolateral membrane of alpha-intercalated cells in the collecting duct in the kidney.

Tissue Location

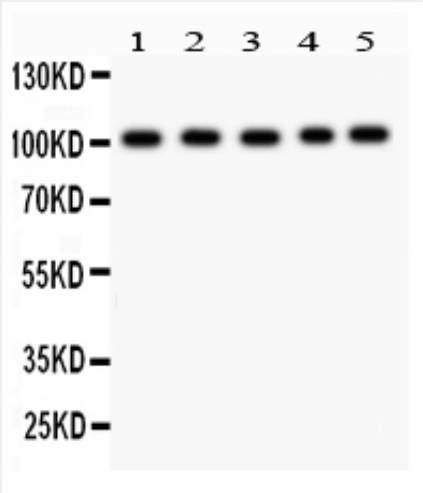
Detected in erythrocytes (at protein level).

Anti-Band 3 Picoband Antibody - Protocols

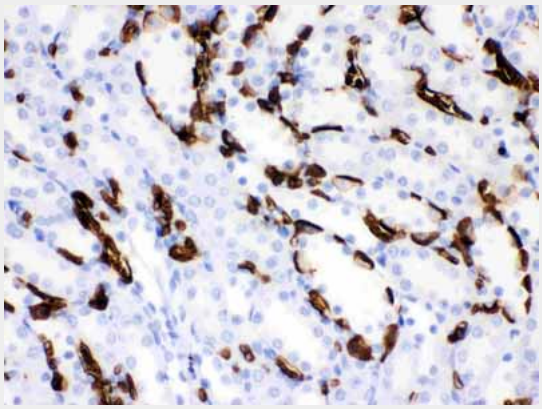
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-Band 3 Picoband Antibody - Images



Anti- Band 3 Picoband antibody, ABO12127, Western blottingAll lanes: Anti Band 3 (ABO12127) at 0.5ug/mlLane 1: Rat Brain Tissue Lysate at 50ugLane 2: Rat Kidney Tissue Lysate at 50ugLane 3: Rat Liver Tissue Lysate at 50ugLane 4: Rat Spleen Tissue Lysate at 50ugLane 5: Human Placenta Tissue Lysate at 50ugPredicted bind size: 102KDObserved bind size: 102KD



Anti- Band 3 Picoband antibody, ABO12127,IHC(P)IHC(P): Rat Kidney Tissue

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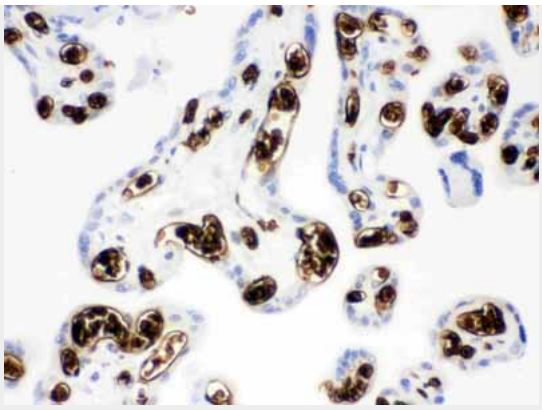
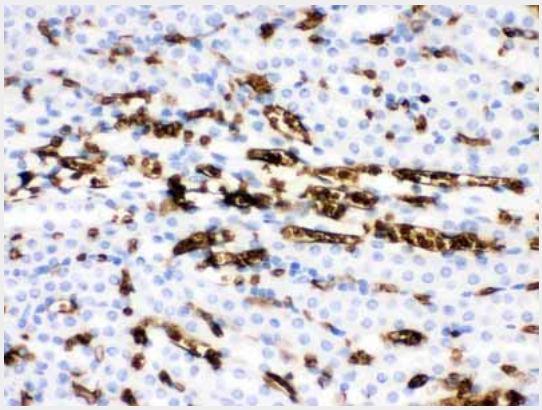
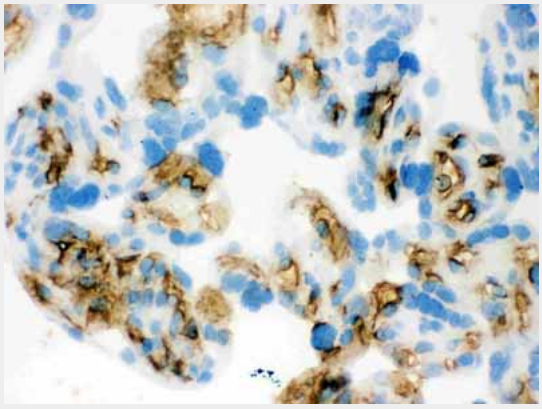


Anti- Band 3 Picoband antibody, ABO12127,IHC(P)IHC(P): Human Placenta Tissue



Anti- Band 3 Picoband antibody, ABO12127,IHC(P)IHC(P): Mouse Kidney Tissue



Anti- Band 3 Picoband antibody, ABO12127,IHC(F)IHC(F): Human Placenta Tissue

Anti-Band 3 Picoband Antibody - Background

Band 3 is also known as SLC4A1. The protein encoded by this gene is part of the anion exchanger (AE) family and is expressed in the erythrocyte plasma membrane, where it functions as a chloride/bicarbonate exchanger involved in carbon dioxide transport from tissues to lungs. The protein comprises two domains that are structurally and functionally distinct. The N-terminal 40kDa domain is located in the cytoplasm and acts as an attachment site for the red cell skeleton by binding ankyrin. The glycosylated C-terminal membrane-associated domain contains 12-14 membrane spanning segments and carries out the stilbene disulphonate-sensitive exchange transport of anions. The cytoplasmic tail at the extreme C-terminus of the membrane domain binds carbonic anhydrase II. The encoded protein associates with the red cell membrane protein glycophorin A and this association promotes the correct folding and translocation of the exchanger.

This protein is predominantly dimeric but forms tetramers in the presence of ankyrin. Many mutations in this gene are known in man, and these mutations can lead to two types of disease: destabilization of red cell membrane leading to hereditary spherocytosis, and defective kidney acid secretion leading to distal renal tubular acidosis. Other mutations that do not give rise to disease result in novel blood group antigens, which form the Diego blood group system.