

**Anti-Band 3 Picoband Antibody**  
**Catalog # ABO12127****Specification**

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**Anti-Band 3 Picoband Antibody - Product Information**

Application	WB, IHC-P, IHC-F
Primary Accession	<a href="#">P02730</a>
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,  
-<br>Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Mouse, Rat, By  
Heat<br>Western blot, 0.1-0.5 µg/ml, Human, Rat<br>

**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 Na<sub>2</sub>HPO<sub>4</sub>, 0.05mg NaN<sub>3</sub>.

**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 reconstitution, 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](http://www.uniprot.org/citations/10926824), PubMed: [14734552](http://www.uniprot.org/citations/14734552), PubMed: [1538405](http://www.uniprot.org/citations/1538405), PubMed: [16227998](http://www.uniprot.org/citations/16227998), PubMed: [20151848](http://www.uniprot.org/citations/20151848), PubMed: [24121512](http://www.uniprot.org/citations/24121512), PubMed: [28387307](http://www.uniprot.org/citations/28387307), PubMed: [35835865](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/1538405), PubMed: [20151848](http://www.uniprot.org/citations/20151848), PubMed: [35835865](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/10926824), PubMed: [14734552](http://www.uniprot.org/citations/14734552), PubMed: [16227998](http://www.uniprot.org/citations/16227998), PubMed: [24121512](http://www.uniprot.org/citations/24121512), PubMed: [28387307](http://www.uniprot.org/citations/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

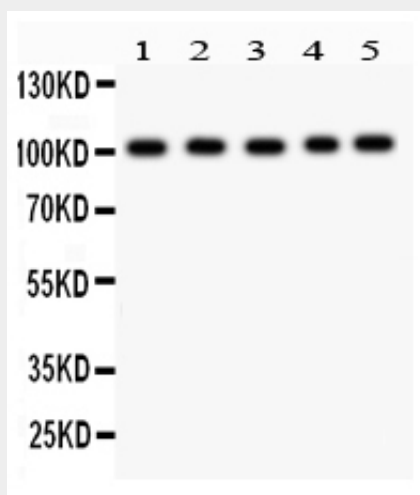
Detected in erythrocytes (at protein level).

### Anti-Band 3 Picoband Antibody - Protocols

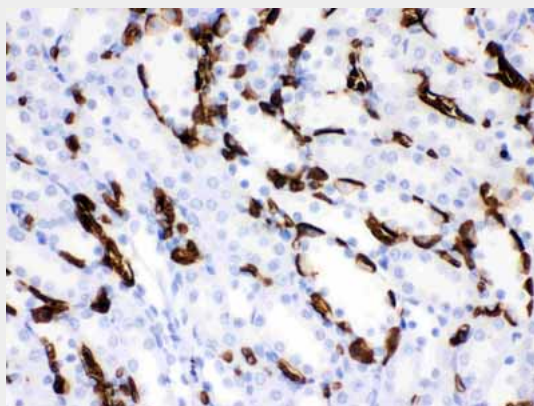
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

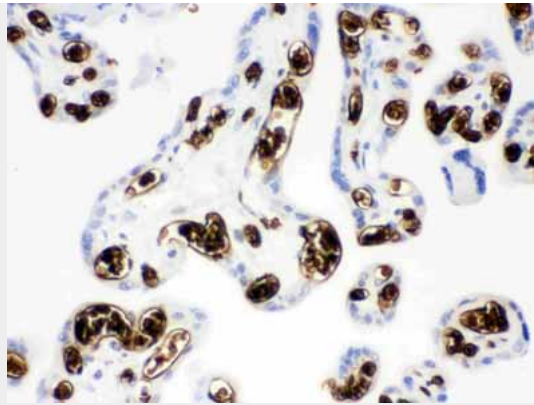
### Anti-Band 3 Picoband Antibody - Images



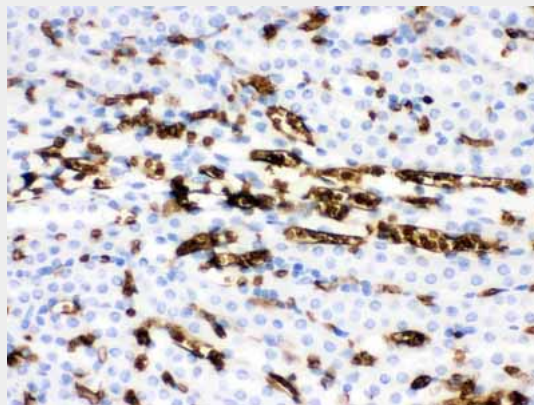
Anti- Band 3 Picoband antibody, ABO12127, Western blotting All lanes: Anti Band 3 (ABO12127) at 0.5ug/ml  
Lane 1: Rat Brain Tissue Lysate at 50ug  
Lane 2: Rat Kidney Tissue Lysate at 50ug  
Lane 3: Rat Liver Tissue Lysate at 50ug  
Lane 4: Rat Spleen Tissue Lysate at 50ug  
Lane 5: Human Placenta Tissue Lysate at 50ug  
Predicted bind size: 102KD  
Observed bind size: 102KD



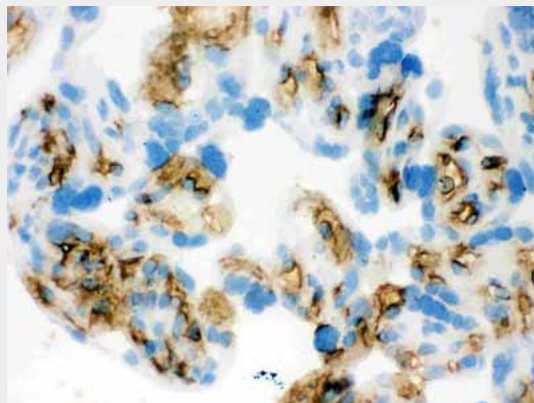
Anti- Band 3 Picoband antibody, ABO12127, IHC(P) IHC(P): Rat Kidney Tissue



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.