Product datasheet

Anti-Band 3/AE1/SLC4A1 Antibody (Clone#5G2G7)

Catalog Number: *M01146-1*

BOSTER
antibody and ELISA experts
BOSTER BIOLOGICAL TECHNOLOGY
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Basic Information

Product Name	Anti-Band 3/AE1/SLC4A1 Antibody (Clone#5G2G7)
Gene Name	SLC4A1
Source	Mouse
Clonality	Monoclonal
Isotype	IgG2b
Species Reactivity	human
Tested Application	WB, IHC, FCM
Contents	500 ug/ml antibody with PBS, 0.02% NaN3, 1 mg/ml BSA and 50% glycerol.
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.
Concentration	500 ug/ml
Purification	protein G/A purified
Observed MW	102 kDa
Dilution Ratios	Western blot (WB): 1:500-2000 Flow Cytometry (Fixed): 1:50-200 Immunohistochemistry (IHC): 1:50-400 (Boiling the paraffin sections in 10mM citrate buffer,pH6.0,or PH8.0 EDTA repair liquid for 20 mins is required for the staining of formalin/paraffin sections.) Optimal working dilutions must be determined by end user.

Storage

12 months from date of receipt，-20℃ as supplied.

Background Information

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

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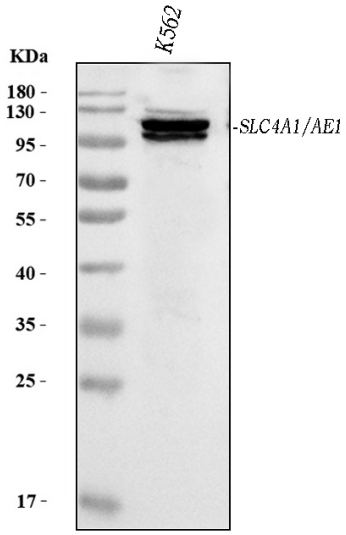
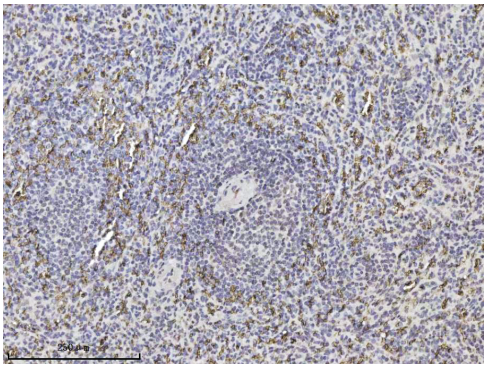
of disease: destabilization of red cell membrane leading to hereditary spherocytosis, and defective kidney acid secretion leading to distal renal tubular acidosis. Other mutations that do not give rise to disease result in novel blood group antigens, which form the Diego blood group system.

Selected Validation Data



Western blot analysis of Band 3/AE1/SLC4A1 using anti-Band 3/AE1/SLC4A1 antibody (M01146-1). The sample well of each lane was loaded with 30 ug of sample under reducing conditions.
Lane 1: K562 whole cell lysates.
After electrophoresis, proteins were transferred to a membrane. Then the membrane was incubated with mouse anti-Band 3/AE1/SLC4A1 antigen affinity purified monoclonal antibody (M01146-1) at a dilution of 1:1000 and probed with a goat anti-mouse IgG-HRP secondary antibody (Catalog # BA1050). The signal is developed using ECL Plus Western Blotting Substrate (Catalog # AR1197). A specific band was detected for Band 3/AE1/SLC4A1 at approximately 102 kDa. The expected band size for Band 3/AE1/SLC4A1 is at 102 kDa.



IHC analysis of Band 3/AE1/SLC4A1 using anti-Band 3/AE1/SLC4A1 antibody (M01146-1).
Band 3/AE1/SLC4A1 was detected in a paraffin-embedded section of human spleen tissue. Biotinylated goat anti-mouse IgG was used as secondary antibody. The tissue section was incubated with mouse anti-Band 3/AE1/SLC4A1 Antibody (M01146-1) at a dilution of 1:200 and developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB (Catalog # AR1027) as the chromogen.

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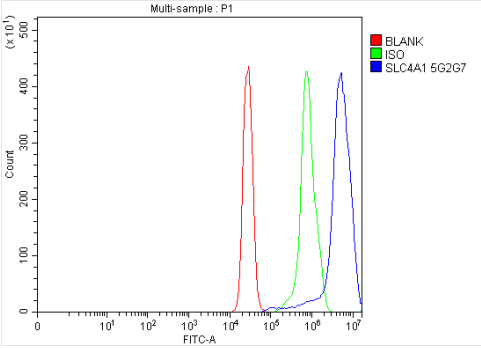

Flow Cytometry analysis of HepG2 cells using anti-Band 3/AE1/SLC4A1 antibody (M01146-1).
Overlay histogram showing HepG2 cells stained with M01146-1 (Blue line). The cells were fixed with 4% paraformaldehyde and blocked with 10% normal goat serum. And then incubated with mouse anti-Band 3/AE1/SLC4A1 Antibody (M01146-1) at 1:100 dilution for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126) was used as secondary antibody at 1:100 dilution for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG at 1:100 dilution used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.