

Product Information

Anti-Band 3 antibody, Mouse monoclonal
clone BIII-136, purified from hybridoma cell culture

Product Number **SAB4200722**

Product Description

Anti-Band 3 antibody, Mouse monoclonal (mouse IgG2a isotype) is derived from the BIII-136 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mouse immunized with Glycophorin B purified from human erythrocytes.¹ The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents, Product Number ISO2. The antibody is purified from culture supernatant of hybridoma cells.

Monoclonal Anti-Band 3 specifically recognizes an epitope located in the cytoplasmic pole of the Band 3 molecule within approximately 20 kDa from the N-terminal end.¹⁻² The antibody does not cross react with Band 3 from horse, bovine, pig, guinea pig, dog or mouse erythrocytes, nor with human fibroblast extract (nonerythroid).² Monoclonal Anti- Band 3 is recommended to use in various immunochemical assays including Immunoblotting and Immuno-precipitation.¹⁻³ In Immunoblot assay this antibody recognizes Band 3 protein (90-100 kDa) and several lower molecular mass peptides migrating in SDS-PAGE gels in the regions of 60, 40 and 20 kDa.

The polymerization and aggregation of the Band 3 protein result in its detection within higher molecular weight complexes. Since the epitope is not located at the erythrocyte surface, the antibody does not agglutinate red blood cells and its binding to the cell surface cannot be detected by an indirect agglutination assay.¹⁻³

Band 3 protein, also known as Band 3 anion transport protein, anion exchanger 1 (AE1) or solute carrier family 4 member 1 (SLC4A1), is the most abundant integral protein of human erythrocyte membranes.⁴ It has a number of functions, including the aid of anion transport polypeptide across the membrane, regulation of the glycolytic pathway, linkage between the cytoskeleton and the lipid bilayer and control of red blood cells (RBC) lifespan.⁵⁻⁶ As a response to an oxidative stress, Band 3 protein forms clusters which play an essential role in the clearance of damaged and aged RBCs from circulation.⁶ Enhanced Band 3 protein clustering has been closely associated with certain

RBC disorders causing hemolytic anemia, such as glucose-6-phosphate dehydrogenase (G6PD) deficiency, malaria and sickle-cell disease as well as critical biochemical changes during blood storage.⁶⁻⁹

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody Concentration: ~ 1.0 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2–8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 2–4 µg/ml is recommended using human erythrocytes ghosts extract.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working concentration by titration test.

References

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