abcam

ab52452

FITC Anti-Glycophorin A + B antibody [HIR2]

Anti-Glycophorin A + B antibody [HIR2] conjugated to FITC - suitable for flow cytometry, and reacts with human samples. Clone [HIR2] is a mouse monoclonal antibody cited in 46 publications.

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Key facts

Isotype	IgG2b
Host species	Mouse
Conjugation	FITC
Excitation/Emission	Ex: 495nm, Em: 519nm
Storage buffer	pH: 7.4 Preservative: 0.097% Sodium azide Constituents: PBS, 0.2% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Synthetic Peptide within Human GYPA. The exact immunogen used to generate this antibody is proprietary information. Database link P02724
Clone number	HIR2
Purification technique	Affinity purification Protein G
Specificity	ab52452 recognises N-terminal, homologous portion of glycophorins A (GPA) and B (GPB) which are single-pass membrane sialoglycoproteins expressed on red blood cells and erythroid precursor cells.
Purification notes	Prior to conjugation, ab52452 was purified by Protein G affinity chromatography. After conjugation, it was purified by site exclusion chromatography. Purity >95% by SDS-PAGE.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	20 µl reagent / 100 µl of whole blood or 10^6 cells in a suspension.

Target data

See full target information GYPA

Function	Component of the ankyrin-1 complex, a multiprotein complex involved in the stability and shape of the erythrocyte membrane (PubMed:35835865). Glycophorin A is the major intrinsic membrane protein of the erythrocyte. The N-terminal glycosylated segment, which lies outside the erythrocyte membrane, has MN blood group receptors. Appears to be important for the function of SLC4A1 and is required for high activity of SLC4A1. May be involved in translocation of SLC4A1 to the plasma membrane. (Microbial infection) Appears to be a receptor for Hepatitis A virus (HAV). (Microbial infection) Receptor for P.falciparum erythrocyte-binding antigen 175 (EBA-175); binding of EBA-175 is dependent on sialic acid residues of the O-linked glycans.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Notes

ab52452 agglutinates untreated RBCs but it failes to agglutinate papain-treated cells, binds to GPA, but weakly to GPB. The antibody is useful in erythroid cell development studies, because HIR2 antigen is expressed on early erythroblasts, late erythroblasts, erythroblasts, mature erythrocytes and the cells of erythroid cell lines K562 and HEL, but not on all other cells (mature erythrocytes are characteristically CD235a positive and CD45 and CD71 negative).

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Glycophorin A and Glycophorin B are well-known sialoglycoproteins located on the surface of human erythrocytes. They are often referenced by alternate names like GYPHE for Glycophorin E and Glycophorin A+B for the combination of both proteins. Glycophorin A which can be labeled with FITC for detection has a molecular mass of approximately 31.3 kDa while Glycophorin B has a similar but slightly smaller mass. These proteins are essential components of the erythrocyte membrane contributing significantly to the negative charge and structural stability of red blood cells.
Biological function summary	Glycophorins A and B interact with other proteins in the erythrocyte membrane influencing the cell's architecture and the stability of the cytoskeleton. These glycophorins associate with CD235a known for its role in red blood cell recognition and interactions. Glycophorin A participates in the formation of a protein complex with other membrane proteins contributing to the antigenic properties of red blood cells which is important in blood transfusion biology.
Pathways	Glycophorin A and B participate in several key biological processes such as membrane organization and signal transduction pathways. They are involved in the MNS blood group system and interact with proteins like band 3 which is a critical component of the erythrocyte's anion exchange mechanism. This interaction helps facilitate ion transport and gas exchange in red blood cells.
Associated diseases and disorders	Glycophorins A and B have associations with malaria and autoimmune hemolytic anemia. The malaria parasite Plasmodium falciparum interacts with these glycophorins to invade red blood cells. Changes in the glycan composition of glycophorin A contribute to the pathophysiology of certain autoimmune disorders potentially linking to immune recognition proteins. Managing these interactions and modifications can be important in designing therapeutic interventions for these conditions.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

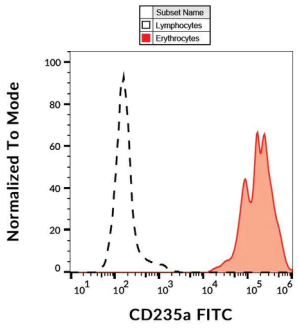
We do not recommend this combination. It is not covered by our product promise.

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1 product image



Flow Cytometry - FITC Anti-Glycophorin A + B antibody [HIR2] (ab52452)

Glycophorin A + B Flow Cytometry staining using mouse Anti-Glycophorin A + B antibody

Flow cytometry analysis (surface staining) of human peripheral blood labeling CD235a with ab52452.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.