

Glycophorin A/B (HIR2): sc-51603

BACKGROUND

Glycophorins A, B and C are sialoglycoproteins of the human erythrocyte membrane, which bear the antigenic determinants for the MN, Ss and Gerbich blood groups, respectively. Glycophorins span the membrane once and present their amino-terminal end to the extracellular surface of the human erythrocyte. The genetic array of expressed glycophorin surface antigens on erythrocytes defines the blood group phenotype of the individual. The human Glycophorin A gene maps to chromosome 4q28.2-q31.1, contains 7 exons which are 97% homologous to Glycophorin B, and encodes a 150 amino acid protein. The human Glycophorin B gene maps to chromosome 4q28-q31 and encodes a 91 amino acid protein. The human Glycophorin C gene maps to chromosome 2q14-q21 and contains four exons. Glycophorin C transcript can generate two protein isoforms. Isoform 1 includes all four exons and encodes the full length 128 amino acid protein. Isoform 2 is missing exon 2 and encodes a 109 amino acid protein, which specifies the Yus subtype of the Gerbich phenotype.

REFERENCES

- Andersson, L.C., et al. 1979. Glycophorin A as a cell surface marker of early erythroid differentiation in acute leukemia. *Int. J. Cancer* 23: 717-720.
- Liszka, K., et al. 1983. Glycophorin A expression in malignant hematopoiesis. *Am. J. Hematol.* 15: 219-226.
- Nakahata, T., et al. 1994. Cell surface antigen expression in human erythroid progenitors: erythroid and megakaryocytic markers. *Leuk. Lymphoma* 13: 401-409.
- Sadahira, Y., et al. 1999. Immunohistochemical identification of erythroid precursors in paraffin embedded bone marrow sections: spectrin is a superior marker to glycophorin. *J. Clin. Pathol.* 52: 919-921.
- Gerber, D., et al. 2001. *In vivo* detection of hetero-association of Glycophorin A and its mutants within the membrane. *J. Biol. Chem.* 276: 31229-31232.

CHROMOSOMAL LOCATION

Genetic locus: GYPA/GYPB mapping to 4q31.21.

SOURCE

Glycophorin A/B (HIR2) is a mouse monoclonal antibody raised against the N-terminus of Glycophorin A of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Glycophorin A/B (HIR2) is available conjugated phycoerythrin (sc-51603 PE, 100 tests in 2 ml) for IF, IHC(P) and FCM.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

Glycophorin A/B (HIR2) is recommended for detection of an N-terminal homologous portion of Glycophorin A and Glycophorin B of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10⁶ cells).

Molecular Weight of Glycophorin A head-head dimer: 16 kDa.

Molecular Weight of Glycophorin A head-tail dimer: 38 kDa.

Molecular Weight of Glycophorin B monomer: 25 kDa.

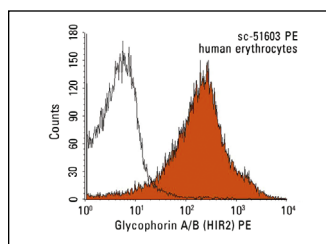
Molecular Weight of Glycophorin B dimer: 46 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Glycophorin A/B (HIR2): sc-51603. Indirect FCM analysis of human erythrocytes stained with Glycophorin A/B (HIR2), followed by PE-conjugated goat anti-mouse IgG: sc-3738. Black line histogram represents the isotype control, normal mouse IgG_{2b}: sc-3879.

RESEARCH USE

For research use only, not for use in diagnostic procedures.



See **Glycophorin A (R10): sc-53905** for Glycophorin A antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647.