

Glycophorin A (H-12): sc-166851

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 4q31.21, contains seven exons which are 97% homologous to Glycophorin B and encodes a 150 amino acid protein. The human Glycophorin B gene maps to chromosome 4q31.21 and encodes a 91 amino acid protein. The human Glycophorin C gene maps to chromosome 2q14.3 and contains four exons. Glycophorin C transcript can generate two protein isoforms. Isoform 1 includes all 4 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

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- 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.
- Young, M.T., et al. 2003. Distinct regions of human glycophorin A enhance human red cell anion exchanger (band 3; AE1) transport function and surface trafficking. *J. Biol. Chem.* 278: 32954-32961.

CHROMOSOMAL LOCATION

Genetic locus: GYPA (human) mapping to 4q31.21.

SOURCE

Glycophorin A (H-12) is a mouse monoclonal antibody raised against amino acids 46-105 of Glycophorin A of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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 (H-12) is recommended for detection of Glycophorin A of human origin by Western Blotting (starting dilution 1:100, 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Glycophorin A siRNA (h): sc-42882, Glycophorin A shRNA Plasmid (h): sc-42882-SH and Glycophorin A shRNA (h) Lentiviral Particles: sc-42882-V.

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

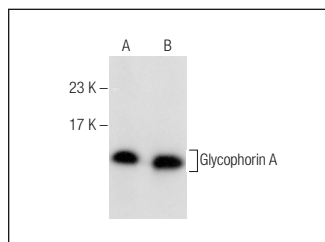
Molecular Weight of Glycophorin A head-tail dimer: 38 kDa.

Positive Controls: human erythrocyte tissue extract, SK-N-SH cell lysate: sc-2410 or K-562 whole cell lysate: sc-2203.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Glycophorin A (H-12): sc-166851. Western blot analysis of Glycophorin A expression in human PBL whole cell lysate (A) and human erythrocyte tissue extract (B).

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, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.