

Glycophorin C/D (A-5): sc-365542

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 4q31.22, contains seven exons which are 97% homologous to Glycophorin B and encodes a 150 amino acid protein. The human Glycophorin B gene also maps to chromosome 4q31.22 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 four exons and encodes the full length 128 amino acid Glycophorin C protein. Isoform 2, also known as Glycophorin D, 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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- 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.
- Lobo, C.A., et al. 2003. Glycophorin C is the receptor for the *Plasmodium falciparum* erythrocyte binding ligand PfEBP-2 (baebl). *Blood* 101: 4628-4631.
- 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.
- Overton, M.C., et al. 2003. Oligomerization, biogenesis, and signaling is promoted by a Glycophorin A-like dimerization motif in transmembrane domain 1 of a yeast G protein-coupled receptor. *J. Biol. Chem.* 278: 49369-49377.
- Bruce, L.J., et al. 2004. Altered structure and anion transport properties of band 3 (AE1, SLC4A1) in human red cells lacking Glycophorin A. *J. Biol. Chem.* 279: 2414-2420.

CHROMOSOMAL LOCATION

Genetic locus: GYPC (human) mapping to 2q14.3.

SOURCE

Glycophorin C/D (A-5) is a mouse monoclonal antibody raised against amino acids 1-85 of Glycophorin C of human origin.

PRODUCT

Each vial contains 200 µg IgG₃ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Glycophorin C/D (A-5) is recommended for detection of Glycophorin C and Glycophorin D 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of Glycophorin C: 40 kDa.

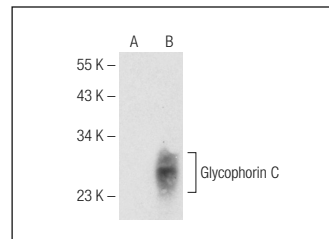
Molecular Weight of Glycophorin D: 30 kDa.

Positive Controls: Glycophorin C (h): 293T Lysate: sc-111667, TF-1 cell lysate: sc-2412 or Jurkat whole cell lysate: sc-2204.

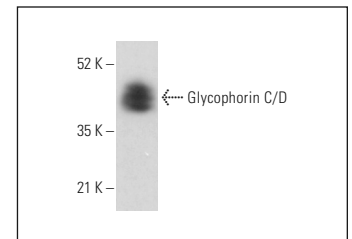
RECOMMENDED SUPPORT REAGENTS

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 C/D (A-5): sc-365542. Western blot analysis of Glycophorin C expression in non-transfected: sc-117752 (A) and human Glycophorin C transfected: sc-111667 (B) 293T whole cell lysates.



Glycophorin C/D (A-5): sc-365542. Western blot analysis of Glycophorin C/D expression in Jurkat whole cell lysate. Detection reagent used: m-IgGκ BP-HRP: sc-516102.

STORAGE

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

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.