

# Glycophorin C/D (F-8): sc-365599

## 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

1. Chang, S.H., et al. 2001. Regulation of the Glycophorin C-protein 4.1 membrane-to-skeleton bridge and evaluation of its contribution to erythrocyte membrane stability. *J. Biol. Chem.* 276: 22223-22230.
2. 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.
3. 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.
4. 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: GYPC (human) mapping to 2q14.3.

## SOURCE

Glycophorin C/D (F-8) is a mouse monoclonal antibody raised against amino acids 1-85 of Glycophorin C of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Glycophorin C/D (F-8) is available conjugated to agarose (sc-365599 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365599 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365599 PE), fluorescein (sc-365599 FITC), Alexa Fluor® 488 (sc-365599 AF488), Alexa Fluor® 546 (sc-365599 AF546), Alexa Fluor® 594 (sc-365599 AF594) or Alexa Fluor® 647 (sc-365599 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365599 AF680) or Alexa Fluor® 790 (sc-365599 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

Glycophorin C/D (F-8) is recommended for detection of Glycophorin C and Glycophorin D 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).

Molecular Weight of Glycophorin C: 40 kDa.

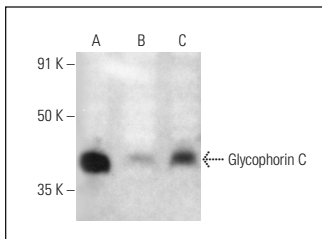
Molecular Weight of Glycophorin D: 30 kDa.

Positive Controls: TF-1 cell lysate: sc-2412, HEL 92.1.7 cell lysate: sc-2270 or K-562 whole cell lysate: sc-2203.

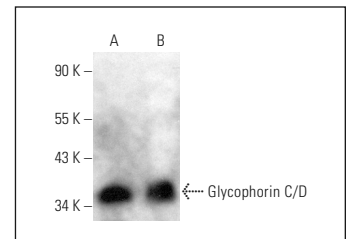
## RECOMMENDED SUPPORT REAGENTS

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 C/D (F-8): sc-365599. Western blot analysis of Glycophorin C/D expression in K-562 (A), TF-1 (B) and HEL 92.1.7 (C) whole cell lysates.



Glycophorin C/D (F-8): sc-365599. Western blot analysis of Glycophorin C/D expression in human erythrocyte tissue extract (A) and K-562 whole cell lysate (B).

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

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