

Product Information

Monoclonal Anti-Glycophorin A (α)

Clone E4

produced in mouse, ascites fluid

Catalog Number **G7900**

Product Description

Monoclonal Anti-Glycophorin A (α) (mouse IgM isotype) is derived from the E4 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with human thymus.^{1,2} The isotype is determined by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2.

The erythrocyte membrane contains four main sialic acid-rich polypeptides (sialoglycoproteins) known as glycophorins (GP)⁵. They are denoted $\alpha, \beta, \gamma, \delta$, in order of decreasing apparent molecular weight. Other nomenclatures are also used.⁶ GPA and GPB, the major constituents of the red cells, appear as single polypeptides (α and δ), but also form stable dimeric complexes (α_2 and δ_2) and heterodimers ($\alpha\delta$) under electrophoretic conditions. GPA carries blood group M or N activity, depending upon the amino acid residues at positions 1 and 5. GPA has a cytoplasmic domain that can be induced to interact with the cytoskeletal structure upon ligand binding. This interaction increases RBC membrane rigidity and decreases deformability. GPA and GPB have related protein sequences. GPA has been considered to be associated exclusively with erythroid cells, i.e. expressed in pronormoblasts and later erythroid cells, but not on the surface of normal committed erythroid cells and proerythroblasts or other hemopoietic cells. Antibodies specific for GPA have been widely used in the diagnosis of leukemias and erythroid differentiation.

Reagent

Supplied as ascites fluid with 15 mM sodium azide as a preservative.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

Product Profile

Monoclonal Anti-Glycophorin A (α) recognizes an epitope on glycophorin A that is alkali-labile, neuraminidase-resistant, trypsin-sensitive,^{2,3} and chymotrypsin-sensitive.³ The antibody localizes specifically the α , $\alpha\delta$, α_2 , $\alpha_2\delta$ and α_3 bands, in extracts of human red blood cell ghosts, applying the immunoblotting technique. The product stains human erythrocytes in smears and tissue preparations using immunofluorescence assays and flow cytometry. It binds to a mean of $7.3\% \pm 1.5\%$ bone marrow cells. The E4 antibody was submitted to the "Second International Workshop and Symposium on Monoclonal Antibodies Against Human Red Blood Cells and Related Antigens",^{3,4} under the code 150, clone 15 D4 clone 1. The antibody has been described by its developer as clone E4.^{1,2}

Monoclonal Anti-Glycophorin A (α) may be used for the localization of glycophorin A using immunoblot, immunoprecipitation, immunocytochemistry, agglutination, or flow cytometry.

Note: In order to obtain best results in different techniques and preparations, it is recommended that each individual user determine their optimum working dilutions by titration assay.

References

1. Telen, M.J., and Bolk, T.A., *Transfusion*, **27**, 309 (1982).
2. Telen, M.J., et al., *Vox. Sang.*, **52**, 236 (1987).
3. Anstee, D.J., and Lisowska, E., *J. Immunogenet.*, **17**, 301 (1990).

4. Messeter, L., and Johnson, V. (eds), Proc. 2nd Int. Workshop and Symp. on Monoclonal Antibodies against Human RBC and Related Antigens, *J. Immunol.*, **17**, Nos. 4/5 (1990).
5. Anstee, D.J., *Vox. Sang.*, **58**, 1 (1990).
6. Anstee, D.J., and Tanner, M.J.A., *Br. J. Haematol.*, **64**, 211 (1986).

MG,KAA,PHC 04/09-1

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