

Product No. G-7775
Lot 096H4816

Monoclonal Anti-Glycophorin C (β)
Purified Mouse Immunoglobulin
Clone E5

Monoclonal Anti-Glycophorin C (β) (mouse IgG1 isotype) is derived from the E5 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 using the Sigma Immuno-Type[™] Kit (Sigma Stock No. ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Sigma Stock No. ISO-2). The product is provided as purified antibody in 0.01 M phosphate buffered saline, pH 7.4, containing 1% BSA and 0.1% sodium azide (see MSDS)* as a preservative.

Specificity

Monoclonal Anti-Glycophorin C (β) recognizes an epitope on the N-terminus of glycophorin C that is trypsin and neuraminidase-sensitive and absent from T and B lymphocytes, monocytes and polymorphonuclear leukocytes. It is reactive with variant forms of glycophorin C, such as Ge⁻ (type Gerbich or Yus), Wb⁺ and Ls (a⁺). The antibody agglutinates Ge⁻ (Gerbich) red blood cells only after trypsin, chymotrypsin or V8 protease pretreatment. Applying the immunoblotting technique, the antibody localizes specifically the Gerbich blood group antigen-related sialoglycoprotein β (36.5 kD), in extracts of human red blood cell ghosts. It also reacts with an abnormal glycophorin C of 30-38 kD from Ge⁻ cells. The product stains human erythrocytes in smears and tissue preparations using immunofluorescence assays and flow cytometry. It binds to a mean of 18% \pm 4.3% bone marrow nucleated cells. The E5 antibody was submitted to the "Second International Symposium and Workshop on Monoclonal Antibodies Against Human Red Blood Cells and Related Antigens"^{3,4} under the code 156, clone 2C10 clone 1114. The antibody has been described by its developer as clone E5.^{1,2}

Description

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 Glycophorin C (GPC), a minor red blood cell sialoglycoprotein of 35-38 kD, plays a significant role in the maintenance of erythrocyte shape by regulating the deformability and mechanical stability of red cells. GPC is detected early in erythroid differentiation among the erythroid progenitors, but is expressed on cells of non-erythroid lineages as well, though there is evidence for erythroid specific glycosylation of GPC. Antibodies specific for GPC have been widely used in the diagnosis of leukemias, research in red blood cells ontogeny, investigations in the function of GPC membrane abnormalities and relations of GPC and Ge antigens.

Uses

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

Antibody Concentration: 0.5 mg/ml (prior to addition of BSA).

Titer: 1:50

The antibody titer was determined by agglutination of human erythrocytes.

Note: Agglutination intensity may be improved by indirect technique, i.e. addition of anti-mouse antibody (antiglobulin phase).²

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.

Storage

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

* Due to the sodium azide content a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazardous and safe handling practices.

References

1. Telen, M., and Bolk, T., *Transfusion*, **27**, 309-314 (1982).
2. Telen, M., et al., *Vox. Sang.*, **52**, 236 (1987).
3. Anstee, D., 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., *Vox. Sang.*, **58**, 1 (1990).
6. Anstee, D., and Tanner, M., *Br. J. Haematol.* **64**, 211 (1986).

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