

Monoclonal Antibody CD41

PN IM0539 – Purified – Freeze-dried – 0.2 mg – Clone SZ22

For Research Use Only. Not for use in diagnostic procedures.

SPECIFICITY

The CD41 antigen (platelet GPIIb; α IIb integrin) is a glycoprotein composed of 2 chains, GPIIb α (120 kDa) and GPIIb β (23 kDa), linked by one disulfide bond (1). CD41 is always non-covalently associated with CD61 (platelet GPIIIa; β 3 integrin), to form the GPIIb-IIIa (CD41 / CD61) complex. The CD41 / CD61 complex play a role in hemostasis (2).

CD41 is expressed by platelets, megakaryocytes and by a small subset of CD34⁺ cells, suggesting that CD41 / CD61 is the earliest marker of the megakaryocytic lineage (3).

The SZ22 monoclonal antibody reacts with the α chain of CD41 (4, 5) and does not react with platelets which lack the membrane glycoprotein gpIIbIIIa.

It does not inhibit platelet aggregation and secretion induced by collagen, arachidonic acid, and thrombin.

It also does not inhibit fibrinogen binding to human platelets induced by ADP, arachidonic acid, and PAF.

The SZ22 monoclonal antibody has been assigned to the CD41 cluster of differentiation at the 5th International Workshop on Human Leucocyte Differentiation Antigens in Boston, U.S.A., in 1993 (WS Code: P087, Section P) (6).

REAGENT

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Clone	SZ22
Isotype	IgG1
Immunogen	Washed human platelets
Hybridoma	Myeloma X63-Ag14 X Balb/c
Species	Mouse
Source	ascites fluid
Purification	Protein A affinity chromatography

REAGENT CONTENTS

1 mg/ml bovine serum albumin in phosphate-buffered saline.

STATEMENT OF WARNINGS

1. Specimens, samples and all material coming in contact with them should be handled as if capable of transmitting infection and disposed of with proper precautions.
2. Never pipet by mouth and avoid contact of samples with skin and mucous membranes.
3. Do not use reagent beyond the expiration date on the vial label.
4. Avoid microbial contamination of reagent or erroneous results may occur.
5. Use good laboratory practices when handling this reagent.

STORAGE CONDITIONS AND STABILITY

This reagent is stable up to the expiration date on the vial label when stored at 2 – 8°C. The reconstituted form may be stored at – 20°C until the expiration date. Aliquoting is suggested to avoid multiple freeze-thaw cycles. The addition of sodium azide at 0.1% (w/v) is recommended for storage of the reconstituted form for up to one month at 2 – 8°C. Minimize exposure to light and warmth.

REAGENT PREPARATION

Reconstitute with 1 mL of distilled water. No preservative has been added.

APPLICATIONS

Studies of platelet functions.
Identification of gpIIb.
Flow cytometry, Immunoprecipitation,
Western Blot.

For each application, it is recommended to establish the right range of antibody dilutions to be used for the experiment.

SELECTED RESEARCH REFERENCES

1. Newman, P.J., "Platelet GPIIb-IIIa: molecular variations and alloantigens", 1991, *Thromb. Haemostas.*, 1, 66, 111-118.
2. Naik, U.P., Parise, L.V., "Structure and function of platelet α IIb β 3", *Curr. Opin. Hematol.*, 4, 317-322.
3. Dercksen, W.M., Weimar, I.S., Richel, D.J., Breton-Gorius, J., Vainchenker, W.,

- Slaper-Cortenbach, I.C.M., Pinedo, H.M., von dem Borne, Gerritsen, W.R., van der Schoot, C.E., "The value of flow cytometric analysis of platelet glycoprotein expression on CD34⁺ cells measured under conditions that prevent P-Selectin-mediated binding of platelets", 1995, *Blood*, 10, 3771-3782.
4. Ruan, C., Du, X., Wan, H., Hu, X., Xi, X., Li, P., "Characterization of the fibrinogen binding sites using monoclonal antibodies to human platelet membrane glycoproteins IIb/IIIa", 1987, *Thromb. Haemostas.*, 1, 58, 243 (abstract)
 5. Chong, B.H., Du, X., Berndt, C., Horn, S., Chesterman, C.N., "Characterization of the binding domains on platelet glycoproteins Ib-IX and IIb/IIIa complexes for the quinine / quinine-dependent antibodies", 1991, *Blood*, 10, 77, 2190-2199
 6. Honda, S., Felding-Habermann, B., Loftus, J., Annis, D., Kunicki, T.J., "CD41 / CD61 cluster workshop report: localization of epitopes on integrins α IIb β 3 (CD41 / CD61) and α v β 3 (CD51 / CD61)", 1995, *Leucocyte Typing V, White Cell Differentiation Antigens*. Schlossman, S.F., et al., Eds., Oxford University Press, 1293-1305.

PRODUCT AVAILABILITY

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Outside the USA, contact your local Beckman Coulter representative.

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