

Monoclonal Antibody CD41-Biotin

PN IM0718 – Freeze-dried – 0.2 mg – Clone P2

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

SPECIFICITY

The CD41 antigen (platelet GPIIb; IIb integrin) is a transmembrane glycoprotein composed of two chains GPIIb α (120 kDa) and GPIIb β (23 kDa) linked by one disulfide bond. CD41 is always non-covalently associated with CD61 (platelet GPIIIa, β 3 integrin), to form the GPIIb-IIIa (CD41/CD61) complex (1). CD41 is expressed by platelets, megakaryocytes and a small subset of CD34⁺ cells, suggesting that CD41/CD61 is one of the earliest markers of the megakaryocytic lineage. The resting form of the CD41/CD61 complex binds to immobilized fibrinogen and upon platelet activation, the complex becomes a receptor for soluble fibrinogen, fibronectin, vWF, vitronectin and thrombospondin. It is involved in platelet aggregation.

The P2 monoclonal antibody (mAb) reacts with the α chain of CD41 (GPIIb α) in the intact complex with GPIIIa but not with the GPIIb or GPIIIa separately. This antibody blocks binding to fibrinogen and inhibits platelet aggregation induced by thrombin, collagen and ADP (2). The P2 mAb was used as a CD41 reference antibody during HLDA 6.

The P2 mAb has been assigned to the CD41 cluster of differentiation at the third International Workshop on Human Leucocyte Differentiation Antigens held in Boston, USA, in 1986 (3).

REAGENT

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Clone	P2
Isotype	IgG1 κ , mouse
Immunogen	Human platelets
Hybridoma	SP2/O-Ag.14 x Balb/c spleen cells
Source	Ascites fluid
Purification	Ion exchange or affinity chromatography
Buffer	1 mg/mL bovine serum albumin in phosphate-buffered saline

APPLICATION

Studies of CD41 positive cells by flow cytometry.

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 antibody beyond the expiration date on the label.
4. Avoid microbial contamination of reagents or incorrect results might occur.
5. Use good laboratory practices when handling this reagent.

STORAGE CONDITIONS AND STABILITY

This freeze-dried form may be stored at 2 – 8°C until the expiration date stated on the vial label.

No preservative has been added.

REAGENT PREPARATION

Depending of usage, reconstitute with 1 mL of distilled water, with or without 0.1% sodium azide (w/v).

The reconstituted form including 0.1% sodium azide may be stored for up to one month at 2 – 8°C.

The reconstituted form without sodium azide can be stored at –20°C or less, until the expiration date stated on the vial label.

In this case, aliquotting is recommended to avoid multiple freezing / thawing cycles.

CONJUGATION

The purified Ig is conjugated to biotin. Revelation procedure requires streptavidin conjugated with a probe as an additional step after binding of the primary antibody.

PROCEDURE

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

SELECTED RESEARCH REFERENCES

1. Phillips, D.R., Charo, I.F., Parise, L.V., Fitzgerald, L.A., "The platelet membrane glycoprotein IIb-IIIa complex", 1988, *Blood.*, 71, 831-843.
2. McGregor, J.L., Brochier, J., Wild, F., Follea, G., Trzeciak, M.C., James, E., Dechavanne, M., McGregor, L., Clemetson, K., "Monoclonal antibodies against platelet membrane glycoproteins", 1983, *Eur. J. Biochem.*, 131, 427-436.
3. Horton, M.A., Hogg, N., "Platelet antigens: new and previously defined clusters", 1987, *Leucocyte Typing III*, McMichael, A.J., et al., Eds., Oxford University Press, 733-746.

PRODUCT AVAILABILITY

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For additional information in the USA, call 800-526-7694.

Outside the USA, contact your local Beckman Coulter representative.

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