

## Product Information

**Anti-Integrin  $\alpha 2b$  (CD41) antibody,  
Mouse monoclonal, clone PM6/248**  
purified from hybridoma cell culture

Catalog Number **I9660**

### Product Description

Anti-Integrin  $\alpha 2b$  (CD41) antibody, Mouse monoclonal (mouse IgG1 isotype) is derived from the hybridoma PM6/248 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with human platelet membranes. The isotype is determined using a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2.

The antibody reacts with human (Gene ID: 3674) and baboon integrin  $\alpha 2b$ . It may be used in various techniques including flow cytometry (FACS) and immunoprecipitation.

Platelets play a critical role in homeostasis by binding at sites of vascular injury and aggregating to form a platelet plug thereafter. This role consists of interaction between adhesive ligands present at the site of the vascular injury and their cognate receptors on the platelet surface. The integrin  $\alpha IIb\beta 3$  (glycoprotein IIb-IIIa) is the major adhesion receptor on platelets that binds fibrinogen only upon platelet stimulation by agonists such as thrombin, adenosine diphosphate (ADP) or collagen.<sup>1</sup> Integrin  $\alpha IIb\beta 3$ , like all integrins, is a  $\alpha/\beta$  heterodimer. Mature  $\alpha IIb$  is composed of 1008 amino acids and  $\beta 3$  of 762 amino acids. Each subunit consists of a large extracellular region, a single transmembrane spanning region and a short cytoplasmic tail. The agonist alters the cytoplasmic domain of the  $\alpha IIb\beta 3$  and initiates a conformational change that transverse the transmembrane region and ultimately triggers rearrangements in the extracellular domain to permit ligand binding.<sup>2</sup> Agonist stimulation also triggers an intracellular process called "outside-in" signaling that results in recruitment of signaling molecules and cytoskeletal proteins directly or indirectly to the cytoplasmic tails of the integrins.<sup>3</sup> These events increase the affinity and avidity of  $\alpha IIb\beta 3$  for fibrinogen or von Willebrand factor (vWF), a response necessary for platelet aggregation.<sup>1,4</sup> Moreover, it should be noted that mutations in integrin  $\alpha IIb$  have been found to result in thrombasthenia, a bleeding disorder, by impairing

progression of pro- $\alpha IIb\beta 3$  from endoplasmic reticulum to golgi.<sup>5,6</sup>

### Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody concentration: ~ 1.0 mg/mL

### Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the 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 at -20 °C 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. Working dilution samples should be discarded if not used within 12 hours.

### Product Profile

Flow cytometry: a working antibody concentration of 1-2  $\mu$ g/mL is recommended using human platelets.

**Note:** In order to obtain the best results using various techniques and preparations, we recommend determining optimal working dilutions by titration.

### References

1. Ruggeri, Z.M., *Nat. Med.*, **8**, 1227-1234 (2002).
2. Ma, Y.M., et al., *J. Thromb. Haemost.*, **5**, 1345-1352 (2007).
3. Han, J., et al., *Curr. Biol.*, **16**, 1796-1806 (2006).
4. Gibbins, J.M., *J. Cell Sci.*, **117**, 3415-3425 (2004).
5. Shen, W.Z., et al., *Blood Cells Mol. Dis.*, **42**, 44-50 (2009).
6. Jayo, A., et al., *Hematologica*, **91**, 1352-1359 (2006).

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