

# Monoclonal Anti-mouse Integrin $\alpha$ 2b/CD41-Phycoerythrin

Catalog Number: FAB41181P

Lot Number: AAUQ01

100 Tests

## Reagents Provided

**Phycoerythrin (PE)-conjugated rat monoclonal anti-mouse Integrin  $\alpha$ 2b/CD41:** Supplied as 25  $\mu$ g of antibody in 1 mL saline containing up to 0.5% BSA and 0.1% sodium azide.

Clone #: 386629

Isotype: rat IgG<sub>2A</sub>

## Reagents Not Provided

- PBS (Dulbecco's PBS)
- BSA

## Storage

Reagents are stable for **twelve months** from date of receipt when stored in the dark at 2° - 8° C.

## Intended Use

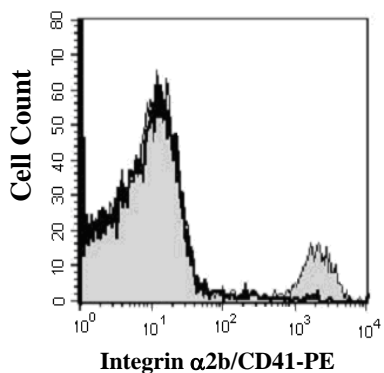
Designed to quantitatively determine the percentage of cells bearing Integrin  $\alpha$ 2b/CD41 within a population and qualitatively determine the density of Integrin  $\alpha$ 2b/CD41 on cell surfaces by flow cytometry.

## Principle of the Test

Washed cells are incubated with the phycoerythrin-labeled monoclonal antibody, which binds to cells expressing Integrin  $\alpha$ 2b/CD41. Unbound phycoerythrin-conjugated antibody is then washed from the cells. Cells expressing Integrin  $\alpha$ 2b/CD41 are fluorescently stained, with the intensity of staining directly proportional to the density of expression of Integrin  $\alpha$ 2b/CD41. Cell surface expression of Integrin  $\alpha$ 2b/CD41 is determined by flow cytometry using 488 nm wavelength laser excitation and monitoring emitted fluorescence with a detector optimized to collect peak emissions at 565 - 605 nm.

## Reagent Preparation

**Phycoerythrin-conjugated rat anti-mouse Integrin  $\alpha$ 2b/CD41:** Use as is; no preparation necessary.



Mouse platelets were stained with PE-conjugated anti-mouse Integrin  $\alpha$ 2b/CD41 (Catalog # FAB41181P, filled histogram) or isotype control (Catalog # IC006P, bold outline).

## Sample Preparation

**Peripheral blood cells:** Whole blood should be collected in evacuated tubes containing EDTA or heparin as the anticoagulant. Contaminating serum components should be removed by washing the cells three times in an isotonic phosphate buffer (supplemented with 0.5% BSA) followed by centrifugation at 500 x g for 5 minutes. 50  $\mu$ L of packed cells should then be transferred to a 5 mL tube for staining with the monoclonal antibody. Whole blood will require lysis of RBC following the staining procedure.

**Cell Cultures:** Continuous cell lines or activated cell cultures should be centrifuged at 500 x g for 5 minutes and washed three times in an isotonic PBS buffer (supplemented with 0.5% BSA) to remove any residual growth factors that may be present in the culture medium. Cells should then be resuspended in the same buffer to a final concentration of 4 x 10<sup>6</sup> cells/mL and 25  $\mu$ L of cells (1 x 10<sup>5</sup>) transferred to a 5 mL tube for staining.

Note: Adherent cell lines may require pretreatment with 0.5 mM EDTA to facilitate removal from their substrates. Cells that require trypsinization to enable removal from their substrates should be further incubated in medium for 6 - 10 hours on a rocker platform to enable regeneration of the receptors. The use of the rocker platform will prevent reattachment to the substrate.

## Sample Staining

- 1) Cells should be Fc-blocked by treatment with 1  $\mu$ g of mouse IgG/10<sup>5</sup> cells for 15 minutes at room temperature prior to staining. Do not wash excess blocking IgG from this reaction.
- 2) Transfer 25  $\mu$ L of the Fc-blocked cells (1 x 10<sup>5</sup> cells) or 50  $\mu$ L of packed whole blood to a 5 mL tube.
- 3) Add 10  $\mu$ L of PE-conjugated Integrin  $\alpha$ 2b/CD41 reagent.
- 4) Incubate for 30 - 45 minutes at 2° - 8° C.
- 5) Following this incubation, remove unreacted Integrin  $\alpha$ 2b/CD41 reagent by washing the cells twice in 4 mL of the same PBS buffer (*Note: Whole blood will require an RBC lysis step at this point using any commercially available lysing reagent, such as R&D Systems Whole Blood Lysing Kit, Catalog # WL1000*).
- 6) Finally, resuspend the cells in 200 - 400  $\mu$ L of PBS buffer for analysis by flow cytometry.
- 7) As a control for this analysis, cells in a separate tube should be treated with PE-labeled rat IgG<sub>2A</sub> antibody.

This procedure may need modification, depending upon final utilization.

## Background Information

Integrin  $\alpha 2b$ , (ITGA2b) also known as CD41 and GPIIb, is a transmembrane glycoprotein that is expressed by megakaryocytes and platelets. It is cleaved into two disulfide-linked chains (114 kDa and 22 kDa) during transit through the Golgi. ITGA2b associates with integrin  $\beta 3$  to form complexes that interact with fibrinogen, von Willebrand factor, fibronectin, and vitronectin. ITGA2b is required for platelet aggregation, and defects lead to disorders of coagulation. Within the extracellular domain, mouse ITGA2b shares 81% and 89% amino acid sequence identity with human and rat ITGA2b, respectively.

**Warning:** Contains sodium azide as a preservative - sodium azide may react with lead and copper plumbing to form explosive metal azides. Flush with large volumes of water during disposal.