

Integrin $\beta 3$ (PT0445R) PT™ Rabbit mAb

CatalogNo: YM8284 **Recombinant** 

Key Features

Host Species

- Rabbit

Reactivity

- Human, Mouse, Rat

Applications

- WB, IHC, IF, IP, ELISA

MW

- 87kD (Calculated)
- 100kD (Observed)

Isotype

- IgG, Kappa

Storage

Storage* -15°C to -25°C/1 year (Do not lower than -25°C)

Formulation PBS, 50% glycerol, 0.05% Proclin 300, 0.05% BSA

Recommended Dilution Ratios

IHC 1:1000-1:4000

WB 1:500-1:2000

IF 1:200-1:1000

ELISA 1:5000-1:20000

IP 1:50-1:200

Basic Information

Clonality Monoclonal

Clone Number PT0445R

Immunogen Information

Immunogen The specific immunogen used to produce this antibody is proprietary information.

Specificity Endogenous

| Target Information

Gene name ITGB3 GP3A

Protein Name Integrin beta-3 (Platelet membrane glycoprotein IIIa) (GPIIIa) (CD antigen CD61)

| Organism | Gene ID | UniProt ID |
|----------|-------------------------|--------------------------|
| Human | 3690 ; | P05106 ; |
| Mouse | 16416 ; | O54890 ; |

Cellular Localization Membrane

Tissue specificity Isoform beta-3A and isoform beta-3C are widely expressed. Isoform beta-3A is specifically expressed in osteoblast cells; isoform beta-3C is specifically expressed in prostate and testis.

Function

Disease: Defects in ITGB3 are a cause of Glanzmann thrombasthenia (GT) [MIM:273800]; also known as thrombasthenia of Glanzmann and Naegeli. GT is the most common inherited disease of platelets. Its inheritance is autosomal recessive. It is characterized by mucocutaneous bleeding of mild-to-moderate severity and the inability of this integrin to recognize macromolecular or synthetic peptide ligands. GT has been classified clinically into types I and II. In type I, platelets show absence of the glycoprotein IIb-IIIa complexes at their surface and lack fibrinogen and clot retraction capability. In type II, the platelets express the GPIIb-IIIa complex at reduced levels (5-20% controls), have detectable amounts of fibrinogen, and have low or moderate clot retraction capability. The platelets of GT variants have normal or near normal (60-100%) expression of dysfunctional receptors.

Function: Integrin alpha-V/beta-3 is a receptor for cytotactin, fibronectin, laminin, matrix metalloproteinase-2, osteopontin, osteomodulin, prothrombin, thrombospondin, vitronectin and von Willebrand factor. Integrin alpha-IIb/beta-3 is a receptor for fibronectin, fibrinogen, plasminogen, prothrombin, thrombospondin and vitronectin. Integrins alpha-IIb/beta-3 and alpha-V/beta-3 recognize the sequence R-G-D in a wide array of ligands. Integrin alpha-IIb/beta-3 recognizes the sequence H-H-L-G-G-G-A-K-Q-A-G-D-V in fibrinogen gamma chain. Following activation integrin alpha-IIb/beta-3 brings about platelet/platelet interaction through binding of soluble fibrinogen. This step leads to rapid platelet aggregation which physically plugs ruptured endothelial surface. In case of HIV-1 infection, the interaction with extracellular viral Tat protein seems to enhance angiogenesis in Kaposi's sarcoma lesions.

online information: The Singapore human mutation and polymorphism database

polymorphism: Position 169 is associated with platelet-specific alloantigen HPA-4 (PEN or YUK). HPA-4A/PEN (A) /YUK (A) has Arg-169 and HPA-4B/PEN (B) /YUK (B) has Gln-169. HPA-4B is involved in neonatal alloimmune thrombocytopenia (NAIT or NATP).

polymorphism: Position 433 is associated with platelet-specific alloantigen MO. MO (-) has Pro-433 and MO (+) has Ala-433. MO (+) is involved in NAIT.

polymorphism: Position 515 is associated with platelet-specific alloantigen CA/TU. CA (-) /TU (-) has Arg-515 and CA (+) /TU (+) has Gln-515. CA (+) is involved in NAIT.

polymorphism: Position 59 is associated with platelet-specific alloantigen HPA-1 (ZW or PL (A)). HPA-1A/ZW (A) /PL (A1) has Leu-59 and HPA-1B/ZW (B) /PL (A2) has Pro-59.

polymorphism: Position 662 is associated with platelet-specific alloantigen SR (A). SR (A) (-) has Arg-662 and SR (A) (+) has Cys-662.

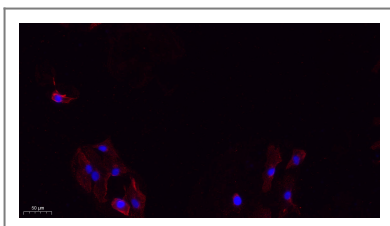
PTM: Phosphorylated on tyrosine residues in response to thrombin-induced platelet aggregation. Probably involved in outside-in signaling. A peptide (AA 740-762) is capable of binding GRB2 only when both Tyr-773 and Tyr-785 are phosphorylated. Phosphorylation of Thr-779 inhibits SHC binding.

similarity: Belongs to the integrin beta chain family. similarity: Contains 1 VWFA domain.

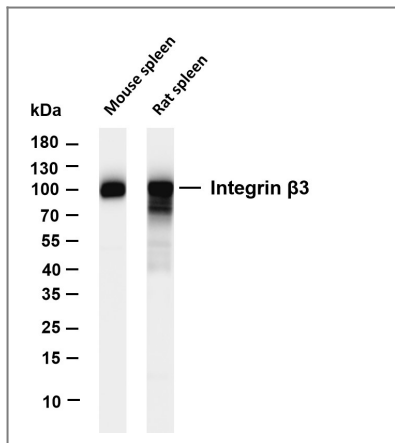
subunit: Heterodimer of an alpha and a beta subunit. Beta-3 associates with either alpha-IIb or alpha-V. Isoform Beta-3C interacts with FLNB. Interacts with HIV-1 Tat.

tissue specificity: Isoform beta-3A and isoform beta-3C are widely expressed. Isoform beta-3A is specifically expressed in osteoblast cells; isoform beta-3C is specifically expressed in prostate and testis.

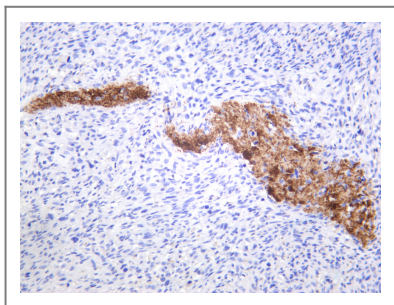
Validation Data



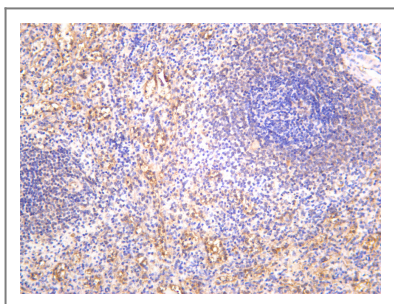
Immunofluorescence analysis of A549. 1, primary Antibody (red) was diluted at 1:200 (4°C overnight). 2, Goat Anti Rabbit IgG (H&L) - Alexa Fluor 594 Secondary antibody was diluted at 1:1000 (room temperature, 50min). 3, DAPI (blue) 10min.



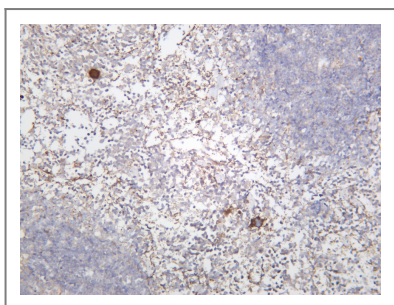
Various whole cell lysates were separated by 4-20% SDS-PAGE, and the membrane was blotted with anti-Integrin β 3 antibody. The HRP-conjugated Goat anti-Rabbit IgG (H + L) antibody was used to detect the antibody. Lane 1: Mouse spleen Lane 2: Rat spleen Predicted band size: 87kDa Observed band size: 100kDa



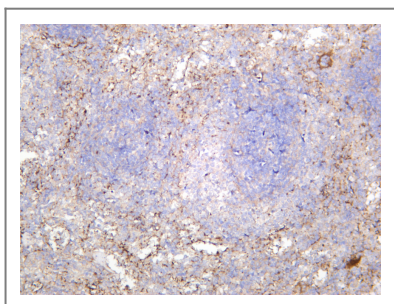
Human osteosarcomas was stained with anti-Integrin β 3 rabbit antibody



Human spleen was stained with anti-Integrin β 3 rabbit antibody



Mouse spleen was stained with anti-Integrin β 3 rabbit antibody



Rat spleen was stained with anti-Integrin β 3 rabbit antibody

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Integrin β 3
(PT0445R) PT™
Rabbit mAb

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