PRODUCT INFORMATION

ITGA2B/CD41 Chimeric Monoclonal Antibody (Clone 7E3 (Abciximab))

Item No. 37163

Overview and Properties

Contents:	This vial contains 200 µg of protein A-affinity purified monoclonal antibody
Synonyms:	GP2B, GPIIb, Integrin α2b, Integrin αIIb, ITGA2B, Platelet Fibrinogen Receptor, Platelet Glycoprotein IIb of IIB/IIIa Complex
Immunogen:	Human CD41
Cross Reactivity:	(+) CD41
Species Reactivity:	(+) Human; other species not tested
Uniprot No.:	P08514
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS with 0.02% ProClin™ 300
Concentration:	1 mg/ml
Clone:	7E3 (Abciximab)
Host:	Chimeric Monoclonal Antibody
Isotype:	IgG1κ
Applications:	Flow Cytometry (FC); block; the optimal working concentration/dilution should be determined empirically.

Description

CD41, also known as integrin α2b (ITGA2B), is a protein subunit of the heterodimeric integrin αIIbβ3 complex.[1] It is composed of N-terminal extracellular β-propeller, thigh, calf-1, and calf-2 domains, a transmembrane domain, and a C-terminal cytoplasmic domain.[2] CD41 is expressed in platelets, as well as fetal hematopoietic stem and progenitor cells and a subtype of aging adult hematopoietic stem cells.[1,3] Signaling through the αIIbβ3 complex occurs *via* inside-out or outside-in mechanisms. Inside-out signaling occurs when a ligand binds and increases the affinity and avidity of the complex for ligands containing the Arg-Gly-Asp integrin recognition sequence, such as fibrinogen and von Willebrand factor, that are required for platelet aggregation and adhesion.[3] Outside-in signaling of the αIIbβ3 complex regulates platelet spreading and plug formation and occurs due to integrin clustering or ligation and integration signaling from additional plasma membrane receptors. Various mutations in *ITGA2B* or *ITGB3*, the gene encoding CD61, the αIIbβ3 complex β3 subunit, lead to a loss of αIIbβ3 expression and are associated with Glanzmann thrombasthenia, a coagulation disorder characterized by impaired clotting, abnormal bleeding, and bruising.[2,4] Cayman's ITGA2B/CD41 Chimeric Monoclonal Antibody (Clone 7E3 (Abciximab)) was produced recombinantly from the original 7E3 Fab antibody sequence and can be used for flow cytometry (FC). The 7E3 antibody was generated by immunization of mice with washed platelets, followed by fusion of the mouse spleen cells with a mouse myeloma cell line and subcloning.[5-7]

References

1. Gekas, C. and Graf, T. *Blood* **121(22),** 4463-4472 (2013).
2. Nurden, A.T. and Pillois, X. *Platelets* **29(1),** 98-101 (2018).
3. Shattil, S.J., Kashiwagi, H., and Pampori, N. *Blood* **91(8),** 2645-2657 (1998).
4. Nair, S., Ghosh, K., Kulkarni, B., *et al. Platelets* **13(7),** 387-393 (2002).
5. EPIC Investigators, T. *N. Engl. J. Med.* **330(14),** 956-961 (1994).
6. Coller, B.S. *J. Clin. Invest.* **76(1),** 101-108 (1985).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

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