Anti-Human CD81 (TAPA-1) Antibody, Clone 5A6

Antibodies

Mouse monoclonal IgG1 antibody against human, rhesus, cynomolgus CD81, unconjugated

Catalog #100-0209   100 µg   0.5 mg/mL

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Product Description

The 5A6 antibody reacts with an epitope located in the large extracellular loop (EC2) of human CD81 (TAPA-1). CD81 is a 26 kDa non-glycosylated type III transmembrane protein belonging to the tetraspanin family. Tetraspanins contain four transmembrane domains, two extracellular loops, and short cytoplasmic N- and C-termini. CD81 associates with numerous integrins, co-receptors, and other proteins to form multimolecular complexes in the plasma membrane called tetraspanin-enriched microdomains. Palmitoylation of the juxtamembrane cysteine residues is important for its association with other proteins and the plasma membrane. CD81 exhibits broad expression, including on the surface of B and T cells, NK cells, monocytes, dendritic cells, thymocytes, endothelial cells, and fibroblasts. It is also a characteristic marker of extracellular vesicles (EVs). CD81 modulates a diverse array of biological functions including cell-cell adhesion and fusion, cell migration, and proliferation. For example, together with CD19 and CD21, CD81 forms a co-receptor for the B cell receptor. The epitope of the 5A6 antibody is hidden when CD81 is in complex with CD19 but accessible following activation of the B cell. Mutations in CD81 have been associated with the immune disorder common variable immunodeficiency (CVID). CD81 has also been implicated in mediating the entry of hepatitis C virus into cells.

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Target Antigen Name:	CD81
Alternative Names:	CVID6, M38, S5.7, TAPA-1 (Target of the Antiproliferative Antibody 1), Tetraspanin-28, Tspan-28
Gene ID:	975
Species Reactivity:	Human, Rhesus, Cynomolgus, Baboon, Chimpanzee, African Green Monkey
Host Species:	Mouse
Clonality:	Monoclonal
Clone:	5A6
Isotype:	IgG1, kappa
Immunogen:	Human B cell lymphoma cell line OCI-Ly8
Conjugate:	Unconjugated

Applications

Verified:	FC, WB
Reported:	CyTOF®, ELISA, FA, FC, ICC, IF, IHC, Immunoaffinity Chromatography, IP, WB
Special Applications:	This antibody clone has been verified for purity assessments of extracellular vesicles isolated with EasySep™ Extracellular Vesicle Human Positive Selection Kits.

Abbreviations: CellSep: Cell separation; ChIP: Chromatin immunoprecipitation; FA: Functional assay; FACS: Fluorescence-activated cell sorting; FC: Flow cytometry; ICC: Immunocytochemistry; IF: Immunofluorescence microscopy; IHC: Immunohistochemistry; IP: Immunoprecipitation; RIA: Radioimmunoassay; WB: Western blotting

Properties

Formulation:	Phosphate-buffered saline, pH 7.2, containing 0.09% sodium azide
Purification:	The antibody was purified by affinity chromatography.
Stability and Storage:	Product stable at 2 - 8°C when stored undiluted. Do not freeze. Stable until expiry date (EXP) on label.
Directions for Use:	The suggested use of this antibody is: FC, ≤ 0.5 µg per 1 x 10^6 cells in 100 µL or per 100 µL of whole blood; WB, 1 - 2 µg/mL. It is recommended that the antibody be titrated for optimal performance for each application.

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Data
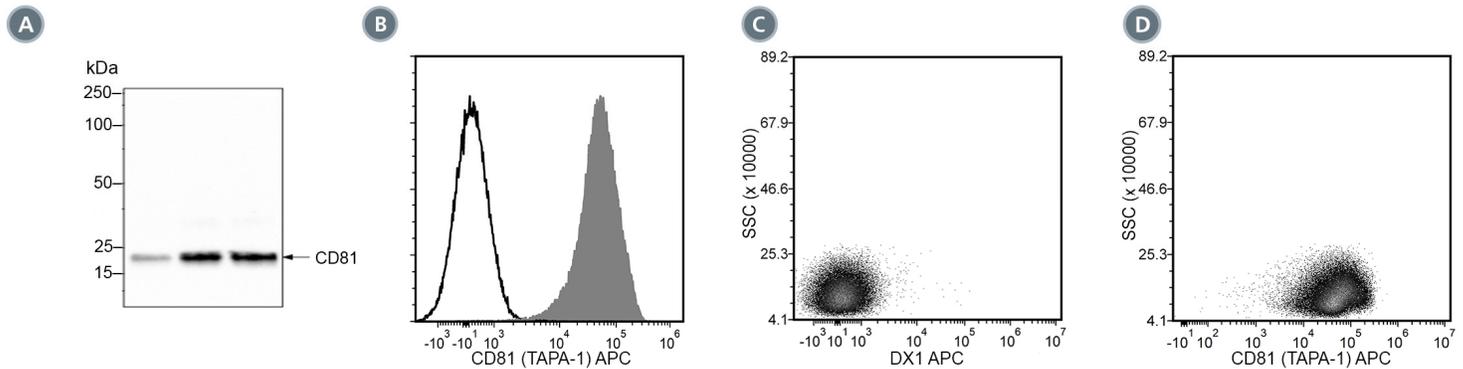
(A) Western blot analysis of extracellular vesicles (EVs) with Anti-Human CD81 (TAPA-1) Antibody, Clone 5A6. EVs were isolated from mesenchymal stromal cell-conditioned medium using a 2 mL EV size exclusion chromatography column. Lanes (left to right) were loaded with isolated fractions 9, 10, and 11, respectively.

(B) Flow cytometry analysis of human peripheral blood mononuclear cells (PBMCs) stimulated with phorbol myristate acetate (PMA) and ionomycin, then labeled with Anti-Human CD81 (TAPA-1) Antibody, Clone 5A6, followed by a goat anti-mouse IgG1 antibody, APC (filled histogram), or Anti-Dextran Antibody, Clone DX1 (Catalog #60026) as an isotype control, followed by a goat anti-mouse IgG1 antibody, APC (solid line histogram). Viable lymphocytes were gated for analysis.

(C) Flow cytometry analysis of human PBMCs (stimulated with PMA and ionomycin) labeled with Anti-Dextran Antibody, Clone DX1 (Catalog #60026) as an isotype control, followed by a goat anti-mouse IgG1 antibody, APC.

(D) Flow cytometry analysis of human PBMCs (stimulated with PMA and ionomycin) labeled with Anti-Human CD81 (TAPA-1) Antibody, Clone 5A6, followed by a goat anti-mouse IgG1 antibody, APC.

Related Products

For related products, including EasySep™ Extracellular Vesicle Selection Kits and antibodies, visit www.stemcell.com or contact us at techsupport@stemcell.com.

References

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