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ExoBrite™ CD29 Flow Antibody

Validated antibody for optimal detection of CD29 (Integrin Beta-1) in purified or bead-bound EVs by flow cytometry.



Product Description

ExoBrite™ CD29 Flow Antibody is validated by Biotium for optimal detection of CD29 (Integrin Beta-1) in purified or bead-bound EVs by flow cytometry. The antibody conjugates offer exceptional signal-to-noise and include color options for the Pacific Blue™, FITC, PE, and APC channels.

- **Proprietary buffer formulation for enhanced signal-to-noise**
- Optimal detection of CD29 (Integrin Beta-1) by flow cytometry
- Validated for purified or bead-bound EVs
- Bright signal and low background
- Available in 4 colors

CD29 (ITGB1 or Integrin Subunit Beta 1) is a 110 kDa cell surface glycoprotein expressed on the surface of many cell types, including all leukocytes, and also often found on extracellular vesicles. It forms non-covalent heterodimers with at least six alpha integrins (CD49a–f) to create VLA-1 through VLA-6 complexes, as well as with CD51. These integrins mediate adhesion, trafficking, proliferation, and differentiation by binding extracellular matrix proteins (collagen, laminin, fibronectin, vitronectin) and some cell surface receptors (VCAM-1, MadCAM-1).

As an isotype control, we recommend ExoBrite™ IgG1 Isotype Control Flow Antibody for this antibody.

Biotium also offers validated ExoBrite™ Flow Antibodies for tetraspanin proteins CD9, CD63, CD81 and other EV markers.

EV antibodies you can trust

Other commercially available antibodies against mouse and human tetraspanin proteins CD9, CD63, and CD81 are generally not validated for isolated EVs and may require tedious optimization for your EV prep and staining protocol. The antibodies and dye labels of ExoBrite™ Flow Antibody Conjugates were carefully selected and validated for robust detection of isolated EVs. In addition, the antibodies are provided in a proprietary buffer formulation for reduced antibody aggregation and brighter EV staining for optimal accuracy and signal-to-noise. Single-color and 3-color ExoBrite™ CD9/CD63/CD81 Antibody Cocktails for human tetraspanin proteins are also available for high-coverage EV staining or EV phenotyping, respectively.

For general EV staining, Biotium's ExoBrite™ True EV Membrane Stains offer unparalleled coverage of EVs in a sample and address issues of dye aggregation often seen with PKH and other common membrane dyes. Biotium also offers optimized ExoBrite™ EV Surface stains conjugated to cholera toxin B (CTB), wheat germ agglutinin (WGA), and Annexin V. These stains are specially formulated for bright and specific detection of isolated EVs by flow cytometry. These ExoBrite™ EV Surface stains may also be combined with antibody staining, for multi-parameter analysis.

Biotium offers conjugated ExoBrite™ Western Antibodies against human CD9, CD63, and CD81 designed for optimal detection in EV extracts by fluorescent western blot.

Note: In our testing, we have found that ExoBrite™ 490/515 dye may bind to streptavidin coated surfaces or beads if free biotin binding sites are not blocked. We recommend performing a biotin blocking step after binding your biotinylated capture antibody to streptavidin beads or surfaces when using ExoBrite™ 490/515 conjugates. Alternatively, consider using a different ExoBrite™ dye for staining EVs captured on streptavidin beads or surfaces.

Product attributes

Antibody number	#P040
Antibody reactivity (target)	CD29
Antibody type	ExoBrite™, Primary
Host species	Mouse
Clonality	Monoclonal
Isotype	IgG1, kappa
Molecular weight of antigen	88 kDa
Synonyms	Integrin β1 chain; VLA-β chain; gpIIa; ITGB1
Human gene symbol	ITGB1
Entrez gene ID	3688
SwissProt	P05556
Antibody target cellular localization	Exosomes/EVs, Lysosomes, Plasma membrane, Membrane/vesicular, Multivesicular bodies
Verified antibody applications	Flow (surface) (verified), Exosome staining (verified)
Species reactivity	Human
Antibody application notes	Recommended concentration for flow cytometry: 5 uL per 0.1 mL exosomes
Positive control	MCF-7 cells, MCF-7 derived exosomes
Shipping condition	Room temperature
Storage Conditions	Store at 2 to 8 °C, Protect fluorescent conjugates from light
Shelf life	Guaranteed for at least 24 months from date of receipt when stored as recommended
Regulatory status	For research use only (RUO)
Antibody/conjugate formulation	Proprietary buffer containing 0.05% sodium azide
Antibody research areas	Exosomes/EVs
Cell/tissue expression	Exosomes, Platelets, Granulocytes, Lymphocytes, Monocytes/macrophages
Volume per assay	5 uL/test

ExoBrite™ CD29 Flow Antibody

Antibody	Ex/Em	Target	Species Reactivity	Detection Channel	Catalog No.
ExoBrite™ 410/450 CD29 Flow Antibody	409/452 nm	CD29	Human	Pacific Blue ™	P040-410
ExoBrite™ 490/515 CD29 Flow Antibody	490/516 nm	CD29	Human	FITC	P040-490
ExoBrite™ 560/585 CD29 Flow Antibody	562/584 nm	CD29	Human	PE	P040-560
ExoBrite™ 640/660 CD29 Flow Antibody	642/663 nm	CD29	Human	APC	P040-640

ExoBrite™ Flow Anti-Human CD9/CD63/CD81 Antibody Cocktails

Cocktail	Ex/Em	Detection Channel	Size	Catalog No.
ExoBrite™ CD9/CD63/CD81 Single-Color Antibody Cocktail (Green)	490/516 nm	FITC	25 tests	P030-125
100 tests	P030-500			
ExoBrite™ CD9/CD63/CD81 Single-Color Antibody Cocktail (Orange)	562/584 nm	PE	25 tests	P031-125
100 tests	P031-500			
ExoBrite™ CD9/CD63/CD81 Single-Color Antibody Cocktail (Far-Red)	642/663 nm	APC	25 tests	P032-125
100 tests	P032-500			
ExoBrite™ CD9/CD63/CD81 3-Color Antibody Cocktail (Blue/Green/Far-Red)	409/452 nm 490/516 nm 642/663 nm	Pacific Blue® FITC APC	25 tests	P028-125
100 tests	P028-500			
ExoBrite™ CD9/CD63/CD81 3-Color Antibody Cocktail (Green/Orange/Far-Red)	490/516 nm 562/584 nm 642/663 nm	FITC PE APC	25 tests	P029-125
100 tests	P029-500			

ExoBrite™ Antibody Target Info

Target	Relevance in EVs	References for Target in EVs	Antibody
CD9	Tetraspanin; common EV marker	Kowal et al., 2016; Théry et al., 2018; Spitzberg et al., 2023	ExoBrite™ CD9 Flow Antibody ExoBrite™ CD9 (Mouse) Flow Antibody ExoBrite™ CD9 Western Antibody
CD29 (Integrin beta 1)	Integrin cell surface glycoprotein found on EV surfaces. Has broad tissue expression and commonly found in EV proteomic analysis.	Hoshino et al., 2015; Hazawa et al., 2014; Kugeratski et al., 2021; Spitzberg et al., 2023	ExoBrite™ CD29 Flow Antibody
CD47	Associates with integrins; regulates trafficking of RNAs into EVs; may contribute to immune evasion on target cells. Has broad tissue expression and commonly found in EV proteomic analysis.	Kamerkar et al., 2017; Li et al., 2022; Kugeratski et al., 2021; Spitzberg et al., 2023	ExoBrite™ CD47 Flow Antibody
CD63	Tetraspanin; common EV marker	Escola et al., 1998; Kowal et al., 2016; Spitzberg et al., 2023	ExoBrite™ CD63 Flow Antibody ExoBrite™ CD63 (Mouse) Flow Antibody ExoBrite™ CD63 Western Antibody

Target	Relevance in EVs	References for Target in EVs	Antibody
CD81	Tetraspanin; common EV marker	Escola et al., 1998; Kowal et al., 2016; Spitzberg et al., 2023	ExoBrite™ CD81 Flow Antibody ExoBrite™ CD81 (Mouse/Rat) Flow Antibody ExoBrite™ CD81 Western Antibody
CD98 (SLC3A2)	Has broad tissue expression and commonly found in EV proteomic analysis.	Mathieu et al., 2021; Liao et al., 2024; Tissot et al., 2024; Kugeratski et al., 2021; Spitzberg et al., 2023	ExoBrite™ CD98 Flow Antibody
Syntenin-1	Involved in EV biogenesis, plays a role in tumor growth, invasion, and metastasis	Mathieu et al., 2021; Kugeratski et al., 2021; Spitzberg et al., 2023; Baietti et al., 2012	ExoBrite™ Syntenin-1 Flow Antibody
Galectin 3-BP	Secreted protein abundant in EV proteomic studies		ExoBrite™ Galectin 3-BP Flow Antibody

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