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ExoBrite™ CD9 Flow Antibody

Validated antibody for optimal detection of EV marker CD9 in purified or bead-bound EVs by flow cytometry.



Product attributes

Antibody number	#P003
SwissProt	P21926
Antibody type	ExoBrite™, Primary
Clonality	Monoclonal
Host species	Mouse
Isotype	IgG1, kappa
Antibody reactivity (target)	CD9
Synonyms	Tetraspanin-29 (TSPAN29); BA-2/p24 antigen; BA2; BTCC1; CD9; Cell growth-inhibiting gene 2 protein; DRAP27; GIG2; Leukocyte antigen MIC3; MIC3; Motility-related protein (MRP1); p24
Species reactivity	Baboon, Bovine, Cynomolgus monkey, Dog, Horse, Human, Non-human primates, Rabbit, Sheep
Human gene symbol	CD9
Entrez gene ID	928
Unigene	114286
Molecular weight of antigen	24 kDa
Antibody target cellular localization	Exosomes/EVs, Plasma membrane
Cell/tissue expression	Exosomes, Platelets, Basophils, Eosinophils, Epithelial cells, Lymphocytes
Verified antibody applications	Exosome staining (verified)
Positive control	MCF-7 cells, MCF-7 derived exosomes
Antibody application notes	Recommended concentration for flow cytometry: 5 uL per 0.1 mL exosomes
Antibody research areas	Exosomes/EVs
Antibody/conjugate formulation	Proprietary buffer containing 0.05% sodium azide
Shelf life	Guaranteed for at least 24 months from date of receipt when stored as recommended
Storage Conditions	Store at 2 to 8 °C, Protect fluorescent conjugates from light
Regulatory status	For research use only (RUO)
Product origin	Product may contain either bovine serum albumin (BSA) from bovine serum (Bos taurus), or recombinant BSA produced in Chinese hamster ovary cells. Inquire for the specific lot.

Product Description

ExoBrite™ CD9 Flow Antibody is validated by Biotium for optimal detection of EV marker CD9 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 EV marker CD9 by flow cytometry
- Validated for purified or bead-bound EVs
- Bright signal and low background
- Available in 6 colors

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 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.

ExoBrite™ Flow Antibody Conjugates

Antibody	Ex/Em	Target	Species Reactivity	Detection Channel	Catalog No.
ExoBrite™ 410/450 CD9 Flow Antibody	409/452 nm	CD9	Human	Pacific Blue ™	P003-410
ExoBrite™ 490/515 CD9 Flow Antibody	490/516 nm	CD9	Human	FITC	P003-490
ExoBrite™ 560/585 CD9 Flow Antibody	562/584 nm	CD9	Human	PE	P003-560
ExoBrite™ 640/660 CD9 Flow Antibody	642/663 nm	CD9	Human	APC	P003-640
ExoBrite™ R-PE CD9 Flow Antibody	496, 546, 565/578 nm	CD9	Human	PE	P003-RPE
ExoBrite™ APC CD9 Flow Antibody	651/660 nm	CD9	Human	APC	P003-APC
ExoBrite™ 410/450 CD9 (Mouse) Flow Antibody	409/452 nm	CD9	Mouse	Pacific Blue ™	P018-410
ExoBrite™ 490/515 CD9 (Mouse) Flow Antibody	490/516 nm	CD9	Mouse	FITC	P018-490
ExoBrite™ 560/585 CD9 (Mouse) Flow Antibody	562/584 nm	CD9	Mouse	PE	P018-560

Antibody	Ex/Em	Target	Species Reactivity	Detection Channel	Catalog No.
ExoBrite™ 640/660 CD9 (Mouse) Flow Antibody	642/663 nm	CD9	Mouse	APC	P018-640
ExoBrite™ APC CD9 (Mouse) Flow Antibody	651/660 nm	CD9	Mouse	APC	P018-APC
ExoBrite™ 410/450 CD47 Flow Antibody	409/452 nm	CD47	Human, Mouse	Pacific Blue ™	P061-410
ExoBrite™ 490/515 CD47 Flow Antibody	490/516 nm	CD47	Human, Mouse	FITC	P061-490
ExoBrite™ 560/585 CD47 Flow Antibody	562/584 nm	CD47	Human, Mouse	PE	P061-560
ExoBrite™ 640/660 CD47 Flow Antibody	642/663 nm	CD47	Human, Mouse	APC	P061-640
ExoBrite™ 410/450 CD63 Flow Antibody	409/452 nm	CD63	Human	Pacific Blue ™	P004-410
ExoBrite™ 490/515 CD63 Flow Antibody	490/516 nm	CD63	Human	FITC	P004-490
ExoBrite™ 560/585 CD63 Flow Antibody	562/584 nm	CD63	Human	PE	P004-560
ExoBrite™ 640/660 CD63 Flow Antibody	642/663 nm	CD63	Human	APC	P004-640
ExoBrite™ R-PE CD63 Flow Antibody	496, 546, 565/578	CD63	Human	PE	P004-RPE
ExoBrite™ APC CD63 Flow Antibody	651/660 nm	CD63	Human	APC	P004-APC
ExoBrite™ 410/450 CD63 (Mouse) Flow Antibody	409/452 nm	CD63	Mouse	Pacific Blue ™	P022-410
ExoBrite™ 490/515 CD63 (Mouse) Flow Antibody	490/516 nm	CD63	Mouse	FITC	P022-490
ExoBrite™ 560/585 CD63 (Mouse) Flow Antibody	562/584 nm	CD63	Mouse	PE	P022-560
ExoBrite™ 640/660 CD63 (Mouse) Flow Antibody	642/663 nm	CD63	Mouse	APC	P022-640
ExoBrite™ APC CD63 (Mouse) Flow Antibody	651/660 nm	CD63	Mouse	APC	P022-APC
ExoBrite™ 410/450 CD81 Flow Antibody	409/452 nm	CD81	Human	Pacific Blue ™	P005-410
ExoBrite™ 490/515 CD81 Flow Antibody	490/516 nm	CD81	Human	FITC	P005-490
ExoBrite™ 560/585 CD81 Flow Antibody	562/584 nm	CD81	Human	PE	P005-560
ExoBrite™ 640/660 CD81 Flow Antibody	642/663 nm	CD81	Human	APC	P005-640
ExoBrite™ R-PE CD81 Flow Antibody	496, 546, 565/578	CD81	Human	PE	P005-RPE
ExoBrite™ APC CD81 Flow Antibody	651/660 nm	CD81	Human	APC	P005-APC
ExoBrite™ 410/450 CD81 (Mouse/Rat) Flow Antibody	409/452 nm	CD81	Mouse, Rat	Pacific Blue ™	P019-410
ExoBrite™ 490/515 CD81 (Mouse/Rat) Flow Antibody	490/516 nm	CD81	Mouse, Rat	FITC	P019-490
ExoBrite™ 560/585 CD81 (Mouse/Rat) Flow Antibody	562/584 nm	CD81	Mouse, Rat	PE	P019-560
ExoBrite™ 640/660 CD81 (Mouse/Rat) Flow Antibody	642/663 nm	CD81	Mouse, Rat	APC	P019-640
ExoBrite™ APC CD81 (Mouse/Rat) Flow Antibody	651/660 nm	CD81	Mouse, Rat	APC	P019-APC
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™ 410/450 IgG1 Isotype Control Flow Antibody	409/452 nm	Isotype Control	None	Pacific Blue ™	P008-410

Antibody	Ex/Em	Target	Species Reactivity	Detection Channel	Catalog No.
ExoBrite™ 490/515 IgG1 Isotype Control Flow Antibody	490/516 nm	Isotype Control	None	FITC	P008-490
ExoBrite™ 560/585 IgG1 Isotype Control Flow Antibody	562/584 nm	Isotype Control	None	PE	P008-560
ExoBrite™ R-PE IgG1 Isotype Control Flow Antibody	496, 546, 565/578	Isotype Control	None	PE	P008-RPE
ExoBrite™ 640/660 IgG1 Isotype Control Flow Antibody	642/663 nm	Isotype Control	None	APC	P008-640
ExoBrite™ APC IgG1 Isotype Control Flow Antibody	651/660 nm	Isotype Control	None	APC	P008-APC
ExoBrite™ Armenian Hamster IgG Isotype Control Flow Antibody	409/452 nm	Isotype Control	None	Pacific Blue ™	P056-410
ExoBrite™ 490/515 Armenian Hamster IgG Isotype Control Flow Antibody	490/516 nm	Isotype Control	None	FITC	P056-490
ExoBrite™ 560/585 Armenian Hamster IgG Isotype Control Flow Antibody	562/584 nm	Isotype Control	None	PE	P056-560
ExoBrite™ 640/660 Armenian Hamster IgG Isotype Control Flow Antibody	642/663 nm	Isotype Control	None	APC	P056-640
ExoBrite™ Armenian Hamster IgG Isotype Control Flow Antibody	651/660 nm	Isotype Control	None	APC	P056-APC
ExoBrite™ 410/450 Rat IgG2a Isotype Control Flow Antibody	409/452 nm	Isotype Control	None	Pacific Blue ™	P057-410
ExoBrite™ 490/515 Rat IgG2a Isotype Control Flow Antibody	490/516 nm	Isotype Control	None	FITC	P057-490
ExoBrite™ 560/585 Rat IgG2a Isotype Control Flow Antibody	562/584 nm	Isotype Control	None	PE	P057-560
ExoBrite™ 640/660 Rat IgG2a Isotype Control Flow Antibody	642/663 nm	Isotype Control	None	APC	P057-640
ExoBrite™ APC Rat IgG2a Isotype Control Flow Antibody	651/660 nm	Isotype Control	None	APC	P057-APC

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			

Cocktail	Ex/Em	Detection Channel	Size	Catalog No.
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
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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