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ExoBrite™ CD9 Western Antibody

Validated antibody for optimal detection of EV marker CD9 in extracellular vesicle (EV) extracts by fluorescent western blot or chemiluminescence.



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	WB (verified)
Shipping condition	Room temperature
Positive control	MCF-7 cells, MCF-7 derived exosomes
Antibody application notes	Optimal concentration to be determined by end-user, Recommended amount for western blot: 100 ng/mL = 1:1000 dilution
Antibody research areas	Exosomes/EVs
Antibody/conjugate formulation	Fluorescent conjugates: proprietary buffer containing 0.05% sodium azide, HRP conjugates: PBS/50% glycerol/2 mg/mL rBSA
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 Western Antibody is validated by Biotium for optimal detection of extracellular vesicle (EV) marker CD9 in EV extracts by fluorescent western blot. It is available conjugated to ExoBrite™ 680/700 or ExoBrite™ 770/800 near-infrared fluorescent dyes, which offer greater signal-to-noise than visible light fluorescent dyes for western blotting, as well as in an HRP-conjugated format for chemiluminescent detection.

- Optimal detection of EV marker CD9 by fluorescent western blot or chemiluminescence
- Validated for use with EV extracts
- Bright signal and low background
- Available in 2 near-infrared colors and HRP

EVs, including exosomes, are lipid-bound vesicles that are released from cells. EVs display specific surface proteins and can carry nucleic acids and other cargo, allowing them to transfer biological information between cells in different parts of the body. Therefore EVs are increasingly studied for their potential use in drug delivery and medical diagnostic applications. The most common proteins used as EV markers are CD9, CD63, and CD81, members of the tetraspanin family. Tetraspanins are plasma membrane proteins with many proposed functions, including activation and sorting of other membrane proteins. They are also thought to play a role in the targeting of proteins to multivesicular bodies (MVBs) and exosomes. These tetraspanins are broadly expressed on many cell types and can therefore be detected on many types of EVs, but their expression levels vary depending on the cell type of origin.

EV antibodies you can trust

Other commercially available antibodies for 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. ExoBrite™ Western Antibody Conjugates were validated to offer bright signal and low background of EV markers in EV extracts. ExoBrite™ Calnexin Western Antibody detects a protein of the endoplasmic reticulum that is not found in EVs. It is offered as a negative control to assess the purity of isolated EV extracts.

If you are using secondary antibodies for western detection, Biotium also offers unconjugated recombinant antibodies against CD9, CD63, and CD81. ExoBrite™ Flow Antibody Conjugates are also available for optimal detection of CD9, CD63, and CD81 EV markers by flow cytometry.

For general EV staining, Biotium offers ExoBrite™ 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™ stains may also be combined with antibody staining, for multi-parameter analysis.

Biotium also provides ExoBrite™ STORM Antibodies against CD9, CD63, and CD81, as well as ExoBrite™ STORM CTB EV Stains that use CF® Dyes engineered specifically for high-performance super-resolution imaging by STORM.

ExoBrite™ Western Antibody Conjugates

Antibody	Ex/Em	Conc.	Size	Catalog No.
ExoBrite™ 680/700 CD9 Western Antibody	681/698 nm	100 ug/mL	25 tests	P003-680-250
			100 tests	P003-680-1000
ExoBrite™ 770/800 CD9 Western Antibody	770/797 nm	100 ug/mL	25 tests	P003-770-250
			100 tests	P003-770-1000
ExoBrite™ HRP CD9 Western Antibody	N/A	100 ug/mL	50 tests	P003-HRP-500UL
ExoBrite™ 680/700 CD63 Western Antibody	681/698 nm	100 ug/mL	25 tests	P004-680-250
			100 tests	P004-680-1000
ExoBrite™ 770/800 CD63 Western Antibody	770/797 nm	100 ug/mL	25 tests	P004-770-250
			100 tests	P004-770-1000
ExoBrite™ HRP CD63 Western Antibody	N/A	100 ug/mL	50 tests	P004-HRP-500UL

Antibody	Ex/Em	Conc.	Size	Catalog No.
ExoBrite™ 680/700 CD81 Western Antibody	681/698 nm	100 ug/mL	25 tests	P006-680-250
			100 tests	P006-680-1000
ExoBrite™ 770/800 CD81 Western Antibody	770/797 nm	100 ug/mL	25 tests	P006-770-250
			100 tests	P006-770-1000
ExoBrite™ HRP CD81 Western Antibody	N/A	100 ug/mL	50 tests	P006-HRP-500UL
ExoBrite™ 770/800 Calnexin Western Antibody	770/797 nm	100 ug/mL	25 tests	P007-770-250
			100 tests	P007-770-1000

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