



SZABO SCANDIC

Part of Europa Biosite

Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

Weitere Information auf den folgenden Seiten!
See the following pages for more information!



Lieferung & Zahlungsart

siehe unsere [Liefer- und Versandbedingungen](#)

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

Product Information

ExoBrite™ Flow Antibody Conjugates

Product List

| Product | Cat. No. | Unit Size |
|---|--------------|-----------|
| ExoBrite™ 410/450 CD9 Flow Antibody | P003-410-125 | 25 tests |
| | P003-410-500 | 100 tests |
| ExoBrite™ 490/515 CD9 Flow Antibody | P003-490-125 | 25 tests |
| | P003-490-500 | 100 tests |
| ExoBrite™ 560/585 CD9 Flow Antibody | P003-560-125 | 25 tests |
| | P003-560-500 | 100 tests |
| ExoBrite™ 650/665 CD9 Flow Antibody | P003-650-125 | 25 tests |
| | P003-650-500 | 100 tests |
| ExoBrite™ R-PE CD9 Flow Antibody | P003-RPE-125 | 25 tests |
| | P003-RPE-500 | 100 tests |
| ExoBrite™ 410/450 CD9 (Mouse) Flow Antibody | P018-410-125 | 25 tests |
| | P018-410-500 | 100 tests |
| ExoBrite™ 490/515 CD9 (Mouse) Flow Antibody | P018-490-125 | 25 tests |
| | P018-490-500 | 100 tests |
| ExoBrite™ 560/585 CD9 (Mouse) Flow Antibody | P018-560-125 | 25 tests |
| | P018-560-500 | 100 tests |
| ExoBrite™ 650/665 CD9 (Mouse) Flow Antibody | P018-650-125 | 25 tests |
| | P018-650-500 | 100 tests |
| ExoBrite™ 410/450 CD63 Flow Antibody | P004-410-125 | 25 tests |
| | P004-410-500 | 100 tests |
| ExoBrite™ 490/515 CD63 Flow Antibody | P004-490-125 | 25 tests |
| | P004-490-500 | 100 tests |
| ExoBrite™ 560/585 CD63 Flow Antibody | P004-560-125 | 25 tests |
| | P004-560-500 | 100 tests |
| ExoBrite™ R-PE CD63 Flow Antibody | P004-RPE-125 | 25 tests |
| | P004-RPE-500 | 100 tests |
| ExoBrite™ 410/450 CD63 (Mouse) Flow Antibody | P022-410-125 | 25 tests |
| | P022-410-500 | 100 tests |
| ExoBrite™ 490/515 CD63 (Mouse) Flow Antibody | P022-490-125 | 25 tests |
| | P022-490-500 | 100 tests |
| ExoBrite™ 560/585 CD63 (Mouse) Flow Antibody | P022-560-125 | 25 tests |
| | P022-560-500 | 100 tests |
| ExoBrite™ 410/450 CD81 Flow Antibody | P005-410-125 | 25 tests |
| | P005-410-500 | 100 tests |
| ExoBrite™ 490/515 CD81 Flow Antibody | P005-490-125 | 25 tests |
| | P005-490-500 | 100 tests |
| ExoBrite™ 560/585 CD81 Flow Antibody | P005-560-125 | 25 tests |
| | P005-560-500 | 100 tests |

| | | |
|---|--------------|-----------|
| ExoBrite™ R-PE CD81 Flow Antibody | P005-RPE-125 | 25 tests |
| | P005-RPE-500 | 100 tests |
| ExoBrite™ 410/450 CD81 (Mouse/Rat) Flow Antibody | P019-410-125 | 25 tests |
| | P019-410-500 | 100 tests |
| ExoBrite™ 490/515 CD81 (Mouse/Rat) Flow Antibody | P019-490-125 | 25 tests |
| | P019-490-500 | 100 tests |
| ExoBrite™ 560/585 CD81 (Mouse/Rat) Flow Antibody | P019-560-125 | 25 tests |
| | P019-560-500 | 100 tests |
| ExoBrite™ 410/450 IgG1 Isotype Control Flow Antibody | P008-410-125 | 25 tests |
| | P008-410-500 | 100 tests |
| ExoBrite™ 490/515 IgG1 Isotype Control Flow Antibody | P008-490-125 | 25 tests |
| | P008-490-500 | 100 tests |
| ExoBrite™ 560/585 IgG1 Isotype Control Flow Antibody | P008-560-125 | 25 tests |
| | P008-560-500 | 100 tests |
| ExoBrite™ 650/665 IgG1 Isotype Control Flow Antibody | P008-650-125 | 25 tests |
| | P008-650-500 | 100 tests |
| ExoBrite™ R-PE IgG1 Isotype Control Flow Antibody | P008-RPE-125 | 25 tests |
| | P008-RPE-500 | 100 tests |

Storage and Handling

Store at 4°C, protected from light. Product is stable for at least 24 months from date of receipt when stored as recommended.

Note: Storage of the antibody for more than a day at final working dilution is not recommended.

Product Description

Extracellular vesicles (EVs), including exosomes, are widely 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 EVs. 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.

ExoBrite™ Flow Antibody Conjugates are validated by Biotium for optimal detection of EV markers CD9, CD63, and CD81 in purified or bead-bound EVs by flow cytometry. The antibodies are available in different clones for both human and mouse tetraspanins. ExoBrite™ fluorophores offer exceptional brightness and signal-to-noise over alternative fluorophores (see Table 2 on page 3 for detection settings of each ExoBrite™ conjugate).

ExoBrite™ Isotype Control Flow Antibodies are offered as a negative control for the ExoBrite™ mouse anti-human antibodies. The isotype controls have no known reactivity with any target in human cells, and have the same isotype as the mouse anti-human ExoBrite™ antibodies.

Biotium also offers other products for EV research, including ExoBrite™ conjugates of CTB, WGA, and Annexin V, as well as ExoBrite™ True EV Membrane Stains for pan-EV labeling. See Related Products and visit our [technology page](#) for more information.

Considerations for Detecting EVs by Flow Cytometry

- Obtaining a clean EV prep is crucial for obtaining robust signal and proper interpretation of results. While there are several EV isolation methods, we have found that size exclusion chromatography (SEC) is an accessible and easy-to-use method that yields a relatively pure population of EVs. For a comparison of EV isolation methods and protocols for EV isolation and staining, see the following tech tips:
[Tech Tip: Isolation and Staining of Extracellular Vesicles](#)
[Tech Tip: Fluorescent Detection of EVs by Flow Cytometry](#)
- EVs are extremely small vesicles (~30-150 nm in diameter), which is near or below the size detection limit of some flow cytometers. We recommend determining the size detection limit of your instrument by running sizing beads (for example, ranging from 0.02-2 µm) in SSC before attempting to detect purified EVs. Sizing beads should be used to set the SSC threshold before each EV detection experiment. EVs that are bound to affinity beads are large enough to detect on any instrument.
- To improve the sensitivity for detecting small particles, we recommend using the 405 nm laser for the SSC channel if it is an option on your flow cytometer.
- For best results, buffers used for suspending and staining EVs should be filtered through a 0.2 µm filter to remove particulates.
- To reduce instrument noise, use a low flow rate to keep the event rate and abort rate low. Dilute the stained samples in filtered PBS if necessary.

Considerations for ExoBrite™ Flow Antibody Conjugates

The following are general considerations for using ExoBrite™ Flow Antibodies to stain EVs. See Experimental Protocols for step-by-step instructions for use.

- ExoBrite™ Flow Antibody Conjugates have been validated in flow cytometry on the CytoFLEX LX from Beckman Coulter. Results on other instruments may vary based on the instruments size detection limit and other parameters.
- ExoBrite™ Flow Antibody Conjugates have been validated for staining EVs isolated using several different methods, including PEG precipitation, size exclusion chromatography, and affinity bead isolation. Staining results may vary depending on the EV isolation method used.

Table 1. Antibody Attributes

| Antibody | Target | Host | Species Reactivity | Target MW | Isotype | Entrez Gene ID | SwissProt | Unigene | Synonyms | Target Localization |
|--|--------|---------|---|---|--------------|----------------------------|------------------------------|---------|---------------------------|---|
| ExoBrite™ CD9 Flow Antibody | CD9 | Mouse | Human, Baboon, Bovine, Cynomolgus monkey, Dog, Horse, Rabbit, Non-human primates, Sheep | 24 kDa | IgG1, kappa | 928 | P21926 | 114286 | Tspan-29, MRP-1 | Exosomes/EVs, Plasma membrane |
| ExoBrite™ CD9 (Mouse) Flow Antibody | CD9 | Rat | Mouse | 24 kDa | IgG2a, kappa | 12527 | P40240 | - | DRAP-27, MRP-1, p-24 | |
| ExoBrite™ CD63 Flow Antibody | CD63 | Mouse | Human, Baboon, Cynomolgus monkey, Non-human primates | 26 kDa (core protein); 30-60 kDa (glycosylated) | IgG1, kappa | 967 | P08962 | 445570 | Tspan-30, LAMP-3, gp55 | Exosomes/EVs, Lysosomes, Plasma membrane, Membrane/vesicular, Multivesicular bodies |
| ExoBrite™ CD63 (Mouse) Flow Antibody | CD63 | Rat | Mouse | 53 kDa | IgG2a, kappa | 12512 | P41731 | - | LIMP, LAMP-3, gp55, ME491 | |
| ExoBrite™ CD81 Flow Antibody | CD81 | Mouse | Human, Baboon, Cynomolgus monkey, Non-human primates, Mouse (low reactivity) | 26 kDa | IgG1, kappa | 975 | P60033 | 54457 | Tspan-28, TAPA-1 | Exosomes/EVs, Plasma membrane |
| ExoBrite™ CD81 (Mouse/Rat) Flow Antibody | CD81 | Hamster | Mouse, Rat | 26 kDa | IgG1, kappa | 12520 (mouse), 25621 (rat) | P35762 (mouse), Q62745 (rat) | - | TAPA-1 | |
| ExoBrite™ IgG1 Isotype Control Flow Antibody | - | Mouse | - | - | IgG1, kappa | - | - | - | - | - |

Experimental Protocols

Note: Before beginning, please read "Considerations for ExoBrite™ Flow Antibody Conjugates" section on page 2.

Antibody staining of purified EVs

This protocol was developed for staining purified EVs with ExoBrite™ Flow Antibody Conjugates for detection by flow cytometry.

1. Isolate or purify EVs using the procedure of your choice. Thaw EVs if they have been stored frozen.
2. Aliquot 100 µL of EV sample into FACS tubes or microcentrifuge tubes. We recommend setting up control tubes of antibody in buffer alone, as well as isotype controls (if available).

Buffer controls

- a. Buffer alone (no EVs, no antibody)
- b. Buffer plus ExoBrite™ Flow Antibody

EV samples

- a. Unstained EVs
 - b. ExoBrite™ Flow Antibody
 - c. ExoBrite™ Isotype Control (if available)
3. Add 5 µL of ExoBrite™ antibody to each 100 µL sample. Remember to also add the antibody to the buffer plus ExoBrite™ Flow Antibody control.
 4. Incubate at room temperature for 30 minutes, protected from light.
 5. Add filtered PBS to the desired volume and run the samples on a flow cytometer. For tips for flow cytometry detection of purified EVs read "Considerations for Detecting EVs by Flow Cytometry" on page 2. See Table 2 for recommended detection settings for ExoBrite™ Flow Antibody Conjugates.

Antibody staining of bead-bound EVs

This protocol was developed for EVs bound to magnetic antibody capture beads, stained with ExoBrite™ Flow Antibody Conjugates and detected by flow cytometry.

1. Prepare EVs bound to the magnetic capture beads of your choice, according to the manufacturer's recommended procedure.
2. Prepare sample tubes and the following control tubes:

Beads controls (no EVs)

- a. Beads alone
- b. Beads plus ExoBrite™ Flow Antibody

Bead-bound EV samples

- a. Unstained bead-bound EVs
 - b. ExoBrite™ Flow Antibody
 - c. ExoBrite™ Isotype Control (if available)
3. Place the tubes with bead-bound EVs on a magnet for 1 minute, remove and discard the supernatant.
Note: If the beads are not completely recovered from the buffer after 1 minute on the magnet, leave the tubes on the magnet for a longer time (up to 4 minutes). We have found that briefly centrifuging tubes to collect the contents near the bottom before placing them on the magnet can improve bead recovery.
 4. Remove the tubes from the magnet, add 300 µL of 0.2 µm-filtered PBS and gently pipet up and down to resuspend.
 5. Repeat steps 3-4 once.
 6. Remove the tubes from the magnet and suspend in 100 µL of PBS. Add 5 µL of ExoBrite™ antibody to each sample, including applicable controls.
 7. Incubate at room temperature for 30 minutes, protected from light.
 8. Place the tube on the magnet for 1 minute and discard the supernatant.
 9. Remove the tubes from the magnet, add 300 µL of PBS and gently pipet up and down to resuspend.
 10. Place the tube on the magnet for 1 minute and discard the supernatant.
 11. Remove the tubes from the magnet, add 500-900 µL of PBS and transfer to flow tubes.
 12. Run the samples on a flow cytometer. See Table 2 for recommended detection settings for ExoBrite™ Flow Antibody Conjugates.

Table 2. Detection Settings for ExoBrite™ Flow Antibodies

| Conjugate | Ex/Em (nm) | Laser Line(s) (nm) | Detection Channel |
|-------------------|-------------------|--------------------|-------------------|
| ExoBrite™ 410/450 | 411/452 | 405 | Pacific Blue™ |
| ExoBrite™ 490/515 | 490/516 | 488 | FITC |
| ExoBrite™ 560/585 | 562/584 | 532 or 561 | PE |
| ExoBrite™ 650/665 | 652/668 | 633-640 | APC |
| ExoBrite™ R-PE | 496, 546, 565/578 | 488, 532, or 561 | PE |

Related Products

| Cat. No. | Product |
|--------------|---|
| 30129, 30130 | ExoBrite™ True EV Membrane Stains |
| 30111-30114 | ExoBrite™ CTB EV Staining Kits |
| 30123-30126 | ExoBrite™ WGA EV Staining Kits |
| 30119-30122 | ExoBrite™ Annexin EV Staining Kits |
| 30115-30118 | ExoBrite™ STORM CTB EV Staining Kits |
| P003-680 | ExoBrite™ 680/700 CD9 Western Antibody |
| P003-770 | ExoBrite™ 770/800 CD9 Western Antibody |
| P004-680 | ExoBrite™ 680/700 CD63 Western Antibody |
| P004-770 | ExoBrite™ 770/800 CD63 Western Antibody |
| P006-680 | ExoBrite™ 680/700 CD81 Western Antibody |
| P006-770 | ExoBrite™ 770/800 CD81 Western Antibody |
| P007-770 | ExoBrite™ 770/800 Calnexin Western Antibody |
| 28000 | ExoBrite™ Streptavidin Magnetic Beads |
| 28001 | ExoBrite™ EV Total RNA Isolation Kit |

Please visit our website at www.biotium.com for more information on our products for EV detection and western blotting including EV stains and antibodies for flow cytometry, western blot blocking buffers, and total protein stains.

Pacific Blue is a trademark of Thermo Fisher Scientific. CYTOFLEX is a registered trademark of Beckman Coulter, Inc.

Materials from Biotium are sold for research use only, and are not intended for food, drug, household, or cosmetic use.