

Technical Data Sheet

BUV563 Mouse Anti-Human Podoplanin

Product Information

Material Number:	749719
Size:	50 µg
Clone:	LpMab-23
Alternative Name:	PDPN; T1-alpha; T1A; GP36; GP40; OTS8; T1A2; TI1A; T1A-2; AGGRUS; PA2.26
Reactivity:	Human (Tested in Development)
Isotype:	Mouse BALB/c IgG1, κ
Immunogen:	Human Podoplanin Transfected Cell Line
Application:	Flow cytometry (Qualified)
Concentration:	0.2 mg/ml
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.
Regulatory Status:	RUO

Description

The LpMab-23 monoclonal antibody specifically recognizes a cancer-specific form of human podoplanin. Podoplanin is a 38-44 kDa type I transmembrane glycoprotein that is encoded by PDPN. This heavily glycosylated mucin type protein is named for its expression on kidney glomerular epithelial cells known as podocytes. Although the podoplanin protein is expressed on a wide variety of cell types in normal tissues (including placenta, lung, skeletal muscle and brain), LpMab-23 recognizes an altered glycosylation pattern that occurs on oral cancer cells and it shows minimal reactivity with the surrounding non-cancerous tissue. In contrast, the LpMab-17 monoclonal antibody recognizes a non-glycosylated epitope of podoplanin on normal and cancer cells. Podoplanin induces platelet aggregation via its three platelet aggregation-stimulating (PLAG) domains; it binds C-type lectin domain family 1 member B (Clec1B, also known as CLEC2); and it is involved in actin cytoskeleton organization and in cellular adhesion and migration. It also plays roles in organogenesis, vascular development, inflammatory diseases, tumorigenesis, and cancer cell motility and metastasis.

The antibody was conjugated to BD Horizon™ BUV563 which is part of the BD Horizon Brilliant™ Ultraviolet family of dyes. This dye is a tandem fluorochrome of BD Horizon BUV395 which has an Ex Max of 348 nm and an acceptor dye. The tandem has an Em Max at 563 nm. BD Horizon BUV563 can be excited by the 355 nm ultraviolet laser. On instruments with a 561 nm Yellow-Green laser, the recommended bandpass filter is 585/15 nm with a 535 nm long pass to minimize laser light leakage. When BD Horizon BUV563 is used with an instrument that does not have a 561 nm laser, a 560/40 nm filter with a 535 nm long pass may be more optimal. Due to the excitation and emission characteristics of the acceptor dye, there may be spillover into the PE and PE-CF594 detectors. However, the spillover can be corrected through compensation as with any other dye combination.

Preparation and Storage

Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze. The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography. The antibody was conjugated with BD Horizon BUV563 under optimal conditions that minimize unconjugated dye and antibody.

Recommended Assay Procedure

For optimal and reproducible results, BD Horizon Brilliant Stain Buffer should be used anytime two or more BD Horizon Brilliant dyes (including BD OptiBuild Brilliant reagents) are used in the same experiment. Fluorescent dye interactions may cause staining artifacts which may affect data interpretation. The BD Horizon Brilliant Stain Buffer was designed to minimize these interactions. More information can be found in the Technical Data Sheet of the BD Horizon Brilliant Stain Buffer (Cat. No. 563794).

Suggested Companion Products

Catalog Number	Name	Size	Clone
554656	Stain Buffer (FBS)	500 mL	
554657	Stain Buffer (BSA)	500 mL	

563794	Brilliant Stain Buffer	100 Tests	
555899	Lysing Buffer	100 mL	
349202	Lysing Solution 10X Concentrate	100 NA	
564219	Human BD Fc Block™	50 mg	
612920	BUV563 Mouse IgG1, κ Isotype Control	50 µg	X40

Product Notices

1. This antibody was developed for use in flow cytometry.
2. The production process underwent stringent testing and validation to assure that it generates a high-quality conjugate with consistent performance and specific binding activity. However, verification testing has not been performed on all conjugate lots.
3. Researchers should determine the optimal concentration of this reagent for their individual applications.
4. An isotype control should be used at the same concentration as the antibody of interest.
5. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
6. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
7. Please refer to www.bdbiosciences.com/us/s/resources for technical protocols.
8. BD Horizon Brilliant Stain Buffer is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,575,303; 8,354,239.

References

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- Miyazaki A, Nakai H, Sonoda T, et al. LpMab-23-recognizing cancer-type podoplanin is a novel predictor for a poor prognosis of early stage tongue cancer. *Oncotarget.* 2018; 9(30):21156-21165. (Clone-specific: Flow cytometry).
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- Yamada S, Ogasawara S, Kaneko MK, Kato Y. LpMab-23: A Cancer-Specific Monoclonal Antibody Against Human Podoplanin. *Monoclonal Antib Immunodiagn Immunother.* 2017; 36(2):72-76. (Immunogen: Flow cytometry).

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