

Technical Data Sheet

BUV563 Mouse Anti-Human LAIR-1 (CD305)

Product Information

Material Number:	749447
Size:	50 µg
Clone:	DX26
Alternative Name:	CD305; LAIR1; hLAIR1; Leukocyte-associated Ig-like receptor 1
Reactivity:	Human (Tested in Development)
Isotype:	Mouse BALB/c IgG1, κ
Immunogen:	Human NK Cell Clone
Application:	Flow cytometry (Qualified)
Concentration:	0.2 mg/ml
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.
Regulatory Status:	RUO

Description

The DX26 monoclonal antibody specifically binds to Leukocyte-associated immunoglobulin-like receptor 1 (LAIR-1/hLAIR1/Leukocyte-associated Ig-like receptor 1) that is encoded by LAIR1, and also known as, CD305. LAIR-1 is a ~32 kDa type I transmembrane glycoprotein with a single immunoglobulin-like domain and a cytoplasmic tail containing two immune receptor tyrosine-based inhibitory (ITIM) motifs. LAIR-1 is expressed on T cells, B cells, NK cells, monocytes, and dendritic cells. LAIR-1 recruits SHP-1 and SHP-2 tyrosine phosphatases upon activation. Crosslinking of the LAIR-1 expressed on T cells or NK cells can result in strong inhibition of cell-mediated cytotoxicity. Although it is structurally related to human killer cell inhibitory receptors, LAIR-1 does not appear to recognize MHC class I molecules and thus represents a novel MHC class I-independent mechanism of NK cell regulation.

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
612920	BUV563 Mouse IgG1, κ Isotype Control	50 µg	X40
554656	Stain Buffer (FBS)	500 mL	
554657	Stain Buffer (BSA)	500 mL	
563794	Brilliant Stain Buffer	100 Tests	
555899	Lysing Buffer	100 mL	

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 wwwbdbiosciences.com/colors.
7. Please refer to wwwbdbiosciences.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

Meyaard L, Adema GJ, Chang C, et al. LAIR-1, a novel inhibitory receptor expressed on human mononuclear leukocytes. *Immunity*. 1997; 7(2):283-290. (Immunogen: Flow cytometry).

Poggi A, Tomasello E, Ferrero E, Zocchi MR, Moretta L. p40/LAIR-1 regulates the differentiation of peripheral blood precursors to dendritic cells induced by granulocyte-monocyte colony-stimulating factor. *Eur J Immunol*. 1998; 28(7):2086-2091. (Biology: Flow cytometry).

van Dongen JJ, Lhermitte L, Böttcher S, et al. EuroFlow antibody panels for standardized n-dimensional flow cytometric immunophenotyping of normal, reactive and malignant leukocytes. *Leukemia*. 2012; 26(9):1908-1975. (Clone-specific: Flow cytometry).

Xu M, Zhao R, Zhao ZJ. Identification and characterization of leukocyte-associated Ig-like receptor-1 as a major anchor protein of tyrosine phosphatase SHP-1 in hematopoietic cells. *J Biol Chem*. 2000; 275(23):17440-17446. (Biology: Flow cytometry).

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