

Technical Data Sheet

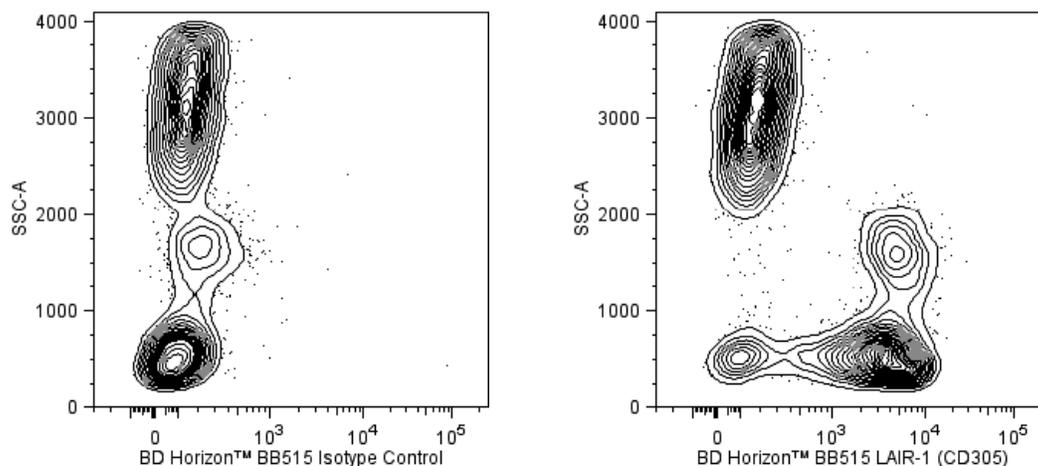
BB515 Mouse Anti-Human LAIR-1 (CD305)**Product Information**

| | |
|-------------------------|---|
| Material Number: | 565153 |
| Alternate Name: | CD305; LAIR1; hLAIR1; Leukocyte-associated Ig-like receptor 1 |
| Size: | 50 Tests |
| Vol. per Test: | 5 µl |
| Clone: | DX26 |
| Immunogen: | Human NK Cell Clone |
| Isotype: | Mouse (BALB/c) IgG1, κ |
| Reactivity: | QC Testing: Human |
| Storage Buffer: | Aqueous buffered solution containing ≤0.09% sodium azide. |

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 BB515 which is part of the BD Horizon Brilliant™ Blue family of dyes. With an Ex Max near 490 nm and an Em Max near 515 nm, BD Horizon BB515 can be excited by the blue laser (488 nm) laser and detected with a 530/30 nm filter. This dye has been exclusively developed by BD Biosciences and is up to seven times brighter than FITC with less spillover into the PE channel. Due to similar excitation and emission properties, BB515, FITC, and Alexa Fluor® 488 cannot be used simultaneously. It is not recommended to use BB515 in cocktails that include Streptavidin conjugates as it may cause high background.



Two-parameter flow cytometric analysis of LAIR-1 (CD305) expression on human leucocyte populations. Whole blood was stained with either BD Horizon™ BB515 Mouse IgG1, κ Isotype Control (Cat. No. 564416; Left Panel) or BD Horizon BB515 Mouse Anti-Human LAIR-1 (CD305) antibody (Cat. No. 565153/566020; Right Panel). Erythrocytes were lysed with BD FACS Lysing Solution (Cat. No. 349202). Two-parameter flow cytometric contour plots showing the correlated expression of LAIR-1 (CD305) [or Ig Isotype control staining] versus side light-scatter signals (SSC-A) were derived from gated events with the forward and side light-scatter characteristics of intact leucocyte populations. Flow cytometric analysis was performed using a BD™ LSR II Flow Cytometer System.

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™ BB515 under optimum conditions and unconjugated antibody was removed.

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Application Notes

Application

Flow cytometry

Routinely Tested

Recommended Assay Procedure:

BD™ CompBeads can be used as surrogates to assess fluorescence spillover (Compensation). When fluorochrome conjugated antibodies are bound to CompBeads, they have spectral properties very similar to cells. However, for some fluorochromes there can be small differences in spectral emissions compared to cells, resulting in spillover values that differ when compared to biological controls. It is strongly recommended that when using a reagent for the first time, users compare the spillover on cells and CompBead to ensure that BD Comp beads are appropriate for your specific cellular application.

For optimal and reproducible results, BD Horizon Brilliant Stain Buffer should be used anytime two or more BD Horizon Brilliant dyes 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. 563794/566349) or the BD Horizon Brilliant Stain Buffer Plus (Cat. No. 566385).

For optimal results, it is recommended to perform 2 washes after staining with antibodies. Cells may be prepared, stained with antibodies and washed twice with wash buffer per established protocols for immunofluorescence staining, prior to acquisition on a flow cytometer. Performing fewer than the recommended wash steps may lead to increased spread of the negative population.

Suggested Companion Products

| Catalog Number | Name | Size | Clone |
|----------------|--|-------------|--------|
| 564416 | BB515 Mouse IgG1, κ Isotype Control | 100 μ g | X40 |
| 349202 | BD FACS™ Lysing Solution | 100 mL | (none) |
| 555899 | Lysing Buffer | 100 mL | (none) |
| 554656 | Stain Buffer (FBS) | 500 mL | (none) |
| 554657 | Stain Buffer (BSA) | 500 mL | (none) |
| 563794 | Brilliant Stain Buffer | 100 Tests | (none) |
| 566349 | Brilliant Stain Buffer | 1000 Tests | (none) |
| 566385 | Brilliant Stain Buffer Plus | 1000 Tests | (none) |
| 566020 | BB515 Mouse Anti-Human LAIR-1 (CD305) | 25 Tests | DX26 |

Product Notices

1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use 1×10^6 cells in a 100- μ l experimental sample (a test).
2. An isotype control should be used at the same concentration as the antibody of interest.
3. 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.
4. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
5. 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.
6. Please refer to <http://regdocs.bd.com> to access safety data sheets (SDS).
7. Please refer to www.bdbiosciences.com/us/s/resources for technical protocols.

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, Functional assay, Immunoprecipitation, Inhibition)

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)

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, Functional assay, Immunoprecipitation, Inhibition)