Technical Data Sheet

BV421 Mouse Anti-Human IL-1β

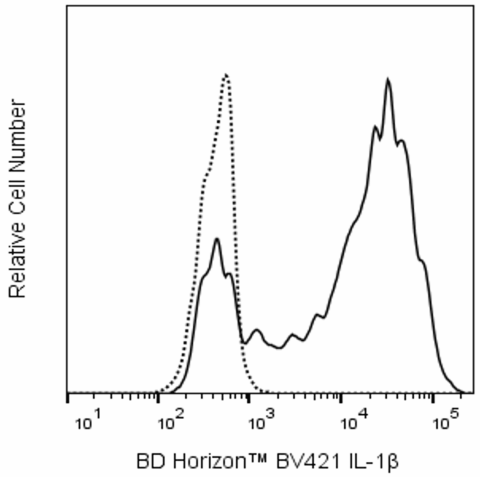
Product Information

Material Number:	**567791**
Alternate Name:	IL-1 beta; IL-1beta; IL-1β; IL1B; interleukin-1 beta
Size:	100 Tests
Vol. per Test:	5 µl
Clone:	AS10
Immunogen:	Human IL-1β
Isotype:	Mouse (BALB/c) IgG1, κ
Reactivity:	QC Testing: Human
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The AS10 antibody reacts with human interleukin-1β (IL-1β) which is also known as endogenous pyrogen (EP), leukocyte endogenous mediator (LEM), mononuclear cell factor (MCF) and lymphocyte-activating factor (LAF). IL-1β is a proinflammatory cytokine that is synthesized as a precursor of 31 kDa and is converted intracellularly to the mature 17.5 kDa form, after cleavage by the IL-1β-converting enzyme (ICE). In healthy individuals, IL-1β is secreted non-constitutively by blood monocytes, tissue macrophages and dendritic cells. IL-1β is also constitutively expressed in the human hypothalamus. Many malignant tumors express IL-1β as part of their neoplastic nature. The AS10 antibody has been reported not to recognize human IL-1α nor cross react with mouse IL-1β.

The antibody was conjugated to BD Horizon BV421 which is part of the BD Horizon Brilliant™ Violet family of dyes. With an Ex Max of 407-nm and Em Max at 421-nm, BD Horizon BV421 can be excited by the violet laser and detected in the standard Pacific Blue™ filter set (eg, 450/50-nm filter). BD Horizon BV421 conjugates are very bright, often exhibiting a 10 fold improvement in brightness compared to Pacific Blue conjugates.



Flow cytometric analysis of IL-1β expression in activated human monocytes. *Human peripheral blood mononuclear cells were cultured with Recombinant Human IFN-γ protein (Cat. No. 554616/554617; 10 ng/ml for 2 h at 37°C) and then stimulated with lipopolysaccharide (1 µg of LPS/ml) and BD GolgiStop™ Protein Transport Inhibitor (containing Monensin) (2 µM; Cat. No. 554724) overnight at 37°C. Cells were harvested, washed, and fixed with BD Cytofix™ Fixation Buffer (Cat. No. 554655). The cells were then washed with and stained in BD Perm/Wash™ Buffer (Cat. No. 554723) with either BD Horizon™ BV421 Mouse IgG1 κ Isotype Control (Cat. No. 562438; dashed line histogram) or BD Horizon™ BV421 Mouse Anti-Human IL-1β antibody (Cat. No. 567791/567792; solid line histogram). The fluorescence histogram showing IL-1β expression (or Ig Isotype control staining) was derived from gated events with the side and forward light-scatter characteristics of intact monocytes. Flow cytometry and data analysis were performed using a BD LSRFortessa™ Cell Analyzer System and FlowJo™ software.*

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 to the dye under optimum conditions and unconjugated antibody and free dye were removed.

Application Notes

Application

Intracellular staining (flow cytometry)	Routinely Tested

Recommended Assay Procedure:

BD Biosciences

bdbiosciences.com

United States	Canada	Europe	Japan	Asia Pacific	Latin America/Caribbean
877.232.8995	866.979.9408	32.2.400.98.95	0120.8555.90	65.6861.0633	55.11.5185.9995

For country contact information, visit **bdbiosciences.com/contact**

BD® CompBeads can be used as surrogates to assess fluorescence spillover (Compensation). When fluorochrome conjugated antibodies are bound to BD® 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 BD® CompBeads to ensure that BD® CompBeads are appropriate for your specific cellular application.

For optimal and reproducible results, BD Horizon Brilliant™ Stain Buffer should be used anytime BD Horizon Brilliant™ dyes are used in a multicolor flow cytometry panel. Fluorescent dye interactions may cause staining artifacts which may affect data interpretation. The BD Horizon Brilliant™ Stain Buffer was designed to minimize these interactions. When BD Horizon Brilliant™ Stain Buffer is used in in the multicolor panel, it should also be used in the corresponding compensation controls for all dyes to achieve the most accurate compensation. For the most accurate compensation, compensation controls created with either cells or beads should be exposed to BD Horizon Brilliant™ Stain Buffer for the same length of time as the corresponding multicolor panel. 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).

Suggested Companion Products

Catalog Number	Name	Size	Clone
554657	Stain Buffer (BSA)	500 mL	(none)
563794	Brilliant Stain Buffer	100 Tests	(none)
554656	Stain Buffer (FBS)	500 mL	(none)
566349	Brilliant Stain Buffer	1000 Tests	(none)
566385	Brilliant Stain Buffer Plus	1000 Tests	(none)
554617	Recombinant Human IFN-γ	50 µg	(none)
554724	Protein Transport Inhibitor (Containing Monensin)	0.7 mL	(none)
555029	Protein Transport Inhibitor (Containing Brefeldin A)	1 mL	(none)
554655	Fixation Buffer	100 mL	(none)
554723	Perm/Wash Buffer	100 mL	(none)
562438	BV421 Mouse IgG1, k Isotype Control	50 µg	X40

Product Notices

1. Please refer to www.bdbiosciences.com/us/s/resources for technical protocols.
2. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
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. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use 1 × 10^6 cells in a 100-µl experimental sample (a test).
5. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
6. An isotype control should be used at the same concentration as the antibody of interest.
7. BD Horizon Brilliant Violet 421 is covered by one or more of the following US patents: 8,158,444; 8,362,193; 8,575,303; 8,354,239.
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.
9. Please refer to http://regdocs.bd.com to access safety data sheets (SDS).
10. Pacific Blue™ is a trademark of Life Technologies Corporation.

References

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Dinarello CA. Biology of interleukin 1. *FASEB J.* 1988; 2:108-115. (Biology)

Mantovani A, Dejana E. Cytokines as communication signals between leukocytes and endothelial cells. *Immunol Today.* 1989; 10(11):370-5. (Biology)

Oh KS, Gottschalk RA, Lounsbury NW, et al. Dual Roles for Ikaros in Regulation of Macrophage Chromatin State and Inflammatory Gene Expression. *J Immunol.* 2018; 201(2):757-771. (Clone-specific: Flow cytometry)

Slack J, McMahan CJ, Waugh S. et al. Independent binding of interleukin-1 α and interleukin-1 β to type I and type II interleukin 1 receptors. *J Bio Chem.* 1993; 268:2513-2524. (Biology)