

## Technical Data Sheet

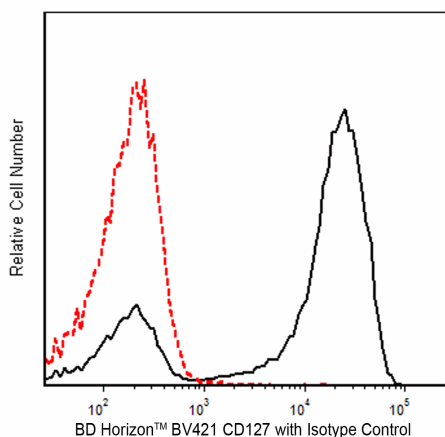
**BV421 Mouse Anti-Human CD127****Product Information**

<b>Material Number:</b>	<b>562436</b>
<b>Alternate Name:</b>	IL-7R; IL7R; IL7RA; IL-7R $\alpha$ ; IL-7R-alpha; Interleukin-7 Receptor alpha
<b>Size:</b>	100 Tests
<b>Vol. per Test:</b>	5 $\mu$ l
<b>Clone:</b>	HIL-7R-M21
<b>Immunogen:</b>	Human IL-7R Recombinant Protein
<b>Isotype:</b>	Mouse IgG1, $\kappa$
<b>Reactivity:</b>	QC Testing: Human
<b>Storage Buffer:</b>	Aqueous buffered solution containing BSA and $\leq$ 0.09% sodium azide.

**Description**

The hIL-7R-M21 monoclonal antibody specifically binds to the 60-90 kDa glycoprotein, CD127. CD127 is also known as the IL-7 receptor alpha (IL-7R $\alpha$ ) subunit. The IL-7 receptor complex is a heterodimer composed of CD127 and the common gamma chain ( $\gamma$ c, CD132), shared by other cytokine receptors (IL-2R, IL-4R, IL-9R, IL-15R, and IL-21R). CD127 is expressed on thymocytes, T- and B-cell progenitors, mature T cells, and some lymphoid and myeloid cells. In vitro experiments show the expression of CD127 is down-regulated following T cell activation. Studies indicate that the IL-7 Receptor plays an important role in the proliferation and differentiation of mature T cells. Recently, it has been shown that low surface expression of CD127, in combination with intermediate to high surface expression of CD25, the  $\alpha$  chain of the IL-2 receptor complex, can distinguish between human regulatory and conventional CD4<sup>+</sup> T cells in human adult and cord blood, lymph nodes and thymus.

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 CD127 expression on human peripheral blood lymphocytes.** Human whole blood was stained with the BD Horizon™ BV421 Mouse Anti-Human CD127 antibody (Cat. No. 562436/562437; solid line histogram) or with BD Horizon™ BV421 Mouse IgG1,  $\kappa$  Isotype Control (Cat. No. 562438; dashed line histogram). The erythrocytes were lysed with BD Pharm Lyse™ Lysing Buffer (Cat. No. 555899). The fluorescence histograms were derived from events with the forward and side light-scatter characteristics of viable lymphocytes. Flow cytometry was performed using a BD FACSCanto™ 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™ BV421 under optimum conditions, and unconjugated antibody and free BD Horizon™ BV421 were removed.

**Application Notes****Application**

Flow cytometry

Routinely Tested

**BD Biosciences**

bdbiosciences.com

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

For country contact information, visit [bdbiosciences.com/contact](http://bdbiosciences.com/contact)

*Conditions: The information disclosed herein is not to be construed as a recommendation to use the above product in violation of any patents. BD Biosciences will not be held responsible for patent infringement or other violations that may occur with the use of our products. Purchase does not include or carry any right to resell or transfer this product either as a stand-alone product or as a component of another product. Any use of this product other than the permitted use without the express written authorization of Becton, Dickinson and Company is strictly prohibited.*

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Not for resale.

© 2016 BD. BD, the BD Logo and all other trademarks are property of Becton, Dickinson and Company.

562436 Rev. 3



### Recommended Assay Procedure:

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).

### Suggested Companion Products

Catalog Number	Name	Size	Clone
554656	Stain Buffer (FBS)	500 mL	(none)
555899	Lysing Buffer	100 mL	(none)
562438	BV421 Mouse IgG1, k Isotype Control	50 µg	X40
562437	BV421 Mouse Anti-Human CD127	25 Tests	HIL-7R-M21
554657	Stain Buffer (BSA)	500 mL	(none)
349202	BD FACSTM Lysing Solution	100 mL	(none)
563794	Brilliant Stain Buffer	100 Tests	(none)
566349	Brilliant Stain Buffer	1000 Tests	(none)

### Product Notices

1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use  $1 \times 10^6$  cells in a 100-µl experimental sample (a test).
2. An isotype control should be used at the same concentration as the antibody of interest.
3. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
4. 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.
5. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at [www.bdbiosciences.com/colors](http://www.bdbiosciences.com/colors).
6. Pacific Blue™ is a trademark of Molecular Probes, Inc., Eugene, OR.
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 [www.bdbiosciences.com/pharmingen/protocols](http://www.bdbiosciences.com/pharmingen/protocols) for technical protocols.

### References

- Akashi K, Traver D, Kondo M, Weissman IL. Lymphoid development from hematopoietic stem cells. *Int J Hematol.* 1999; 69(4):217-226. (Biology)
- Appasamy PM. Biological and clinical implications of interleukin-7 and lymphopoiesis. *Cytokines Cell Mol Ther.* 1999; 5(1):25-39. (Biology)
- Armitage RJ, Ziegler SF, Friend DJ, Park LS, Fanslow WC. Identification of a novel low-affinity receptor for human interleukin-7. *Blood.* 1992; 79(7):1738-1745. (Clone-specific: Flow cytometry)
- In: Fitzgerald KA, Callard RE. *The cytokine factsbook, 2nd ed. / Katherine A. Fitzgerald ... [et al.]*. San Diego: Academic Press; 2001:75. (Biology)
- Goodwin RG, Friend D, Ziegler SF et al. Cloning of the human and murine interleukin-7 receptors: demonstration of a soluble form and homology to a new receptor superfamily. *Cell.* 1990; 60(6):941-951. (Biology)
- Hardy RR, Carmack CE, Shinton SA, Kemp JD, Hayakawa K. Resolution and characterization of pro-B and pre-pro-B cell stages in normal mouse bone marrow. *J Exp Med.* 1991; 173(5):1213-1225. (Biology)
- Hofmeister R, Khaled AR, Benbernou N, Rajnavolgyi E, Muegge K, Durum SK. Interleukin-7: physiological roles and mechanisms of action. *Cytokine Growth Factor Rev.* 1999; 10(1):41-60. (Biology)
- Liu W, Putnam AL, Xu-Yu Z, et al. CD127 expression inversely correlates with FoxP3 and suppressive function of human CD4+ T reg cells. *J Exp Med.* 2006; 203(7):1701-1711. (Biology)
- Namen AE, Lupton S, Hjerrild K et al. Stimulation of B-cell progenitors by cloned murine interleukin-7. *Nature.* 1988; 333(6173):571-573. (Biology)
- Plum J, De Smedt M, Leclercq G, Verhasselt B, Vandekerckhove B. Interleukin-7 is a critical growth factor in early human T-cell development. *Blood.* 1996; 88(11):4239-4245. (Biology)
- Seddiki N, Santner-Nanan B, Martinson J et al. Expression of interleukin (IL)-2 and IL-7 receptors discriminates between human regulatory and activated T cells. *J Exp Med.* 2006; 203(7):1693-1700. (Biology)