

# Technical Data Sheet

## BUV563 Mouse Anti-Human CD127

### Product Information

Material Number:	748489
Size:	50 µg
Clone:	HIL-7R-M21
Alternative Name:	IL-7R; IL7R; IL7RA; IL-7Rα; IL-7R-alpha; Interleukin-7 Receptor alpha
Reactivity:	Human (Tested in Development)
Isotype:	Mouse IgG1, κ
Immunogen:	Human IL-7R Recombinant Protein
Application:	Flow cytometry (Qualified)
Concentration:	0.2 mg/ml
Entrez Gene ID:	3575
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.
Regulatory Status:	RUO

### 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-7Rα) subunit. The IL-7 receptor complex is a heterodimer composed of CD127 and the common gamma chain (γc, 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 α chain of the IL-2 receptor complex, can distinguish between human regulatory and conventional CD4+ T cells in human adult and cord blood, lymph nodes and thymus.

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
349202	Lysing Solution 10X Concentrate	100 NA
564219	Human BD Fc Block™	50 mg

## 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](http://www.bdbiosciences.com/colors).
7. Please refer to [www.bdbiosciences.com/us/s/resources](http://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

Appasamy PM. Biological and clinical implications of interleukin-7 and lymphopoiesis. *Cytokines Cell Mol Ther.* 1999; 5(1):25-39. (Biology: Flow cytometry).

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. (Immunogen: Flow cytometry).

Benjamin D, Sharma V, Knobloch TJ, Armitage RJ, Dayton MA, Goodwin RG. B cell IL-7. Human B cell lines constitutively secrete IL-7 and express IL-7 receptors. *J Immunol.* 1994; 152(10):4749-4757. (Clone-specific: Flow cytometry).

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: Flow cytometry).

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: Flow cytometry).

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. (Clone-specific: Flow cytometry).

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: Flow cytometry).

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