

## Technical Data Sheet

## APC-R700 Mouse Anti-Human CD127

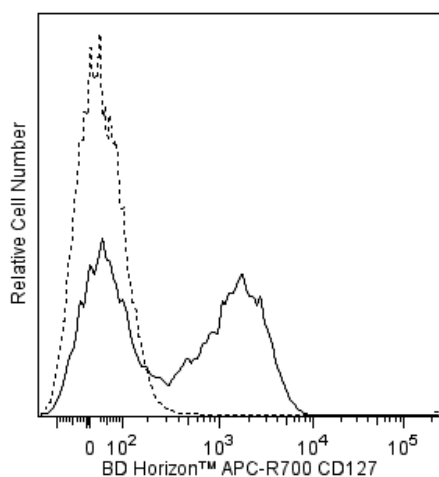
## Product Information

Material Number:	565185
Alternate Name:	IL-7R; IL7R; IL7RA; IL-7R $\alpha$ ; IL-7R-alpha; Interleukin-7 Receptor alpha
Size:	50 Tests
Vol. per Test:	5 $\mu$ l
Clone:	HIL-7R-M21
Immunogen:	Recombinant Human IL-7R
Isotype:	Mouse IgG1, $\kappa$
Reactivity:	QC Testing: Human
Storage Buffer:	Aqueous buffered solution containing BSA, protein stabilizer, glycerol 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.

This antibody was conjugated to BD Horizon APC-R700, which has been developed exclusively by BD Biosciences as a better alternative to Alexa Fluor® 700. APC-R700 excites and emits at similar wavelengths to Alexa Fluor® 700 yet exhibits significantly improved brightness. This dye can be excited by the red laser and detected with the same filter set as Alexa Fluor® (eg, 730/45-nm filter).



**Flow cytometric analysis of CD127 expression on human peripheral blood lymphocytes.** Human whole blood was stained with either BD Horizon™ APC-R700 Mouse IgG1,  $\kappa$  Isotype Control (Cat. No. 564974; dashed line histogram) or BD Horizon APC-R700 Mouse Anti-Human CD127 antibody (Cat. No. 565185; solid line histogram). The erythrocytes were lysed with BD FACS™ Lysing Solution (Cat. No. 349202). The fluorescence histograms were derived from events with the forward and side light-scatter characteristics of intact lymphocytes. 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 APC-R700 under optimum conditions, and unconjugated antibody and free BD Horizon APC-R700 were removed.

## Application Notes

## Application

Flow cytometry	Routinely Tested
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## Suggested Companion Products

Catalog Number	Name	Size	Clone
554656	Stain Buffer (FBS)	500 mL	(none)
554657	Stain Buffer (BSA)	500 mL	(none)
564974	APC-R700 Mouse IgG1, $\kappa$ Isotype Control	0.1 mg	X40
555899	Lysing Buffer	100 mL	(none)
349202	BD FACST <sup>™</sup> Lysing Solution	100 mL	(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- $\mu$ l experimental sample (a test).
2. Please refer to [www.bdbiosciences.com/pharming/en/protocols](http://www.bdbiosciences.com/pharming/en/protocols) for technical protocols.
3. Alexa Fluor<sup>®</sup> is a registered trademark of Molecular Probes, Inc., Eugene, OR.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
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. An isotype control should be used at the same concentration as the antibody of interest.

## 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)
- 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. (Clone-specific: Flow cytometry, Fluorescence activated cell sorting)
- 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)

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