Revision 1

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CD127/IL-7Rα (A7R34) Rat mAb (PE Conjugate)

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
FC-L	M	Endogenous	Rat IgG2a kappa	#P16872	16197

Product Usage Information

For optimal flow cytometry results, we recommend 0.25 µg of antibody per test

Application	Dilution
Flow Cytometry (Live)	1:80

Storage

Supplied in 10 mM NaH2PO4, 150 mM NaCl, 0.09% NaN3, 0.1% gelatin, pH 7.2. This product is stable for 12 months when stored at 4ºC. Do not aliquot the antibody. Protect from light. Do not freeze.

Specificity / Sensitivity

CD127/IL-7Rα (A7R34) Rat mAb (PE Conjugate) recognizes endogenous levels of total CD127/IL-7Rα protein. This antibody detects an epitope within the extracellular domain.

Source / Purification

This monoclonal antibody was purified from tissue culture supernatant via affinity chromatography. The purified antibody was conjugated under optimal conditions, with unreacted dye removed from the preparation.

Product Description

This Cell Signaling Technology antibody is conjugated to PE and tested in-house for direct flow cytometric analysis in mouse cells.

Background

The IL-7 receptor (IL-7R) is comprised of two protein subunits, CD127/IL-7Rα (IL-7Ralpha) and the common gamma chain (CD132), which is the major signaling component for several cytokines including IL-2, IL-4, IL-9, IL-15, and IL-21 (1). CD127/IL-7Rα is a transmembrane protein belonging to the cytokine receptor homology class 1 (CRH1) and is expressed by a wide variety of cells including immature B cells, thymic natural killer cells, bone marrow stromal cells, and T cells (5-6). On its own, CD127/IL-7Rα functions as a receptor for two cytokine receptor complex signaling cascades: IL-7 and thymic stromal lymphopoietin (TSLP) (2). IL-7 signaling contributes to T cell development and homeostasis whereas TSLP receptor signaling contributes to dendritic cell activation and B cell development. IL-7 signaling is an essential component in regulating the homeostasis of naive and memory T cells as differential expression of CD127/IL-7Rα is observed on naive and activated T cells, which occurs following TCR activation. Specifically, CD127/IL-7Rα expression is downregulated on activated T cells and the subsequent re-expression of CD127/IL-7Rα on these cells is indicative of cells that will differentiate into memory T cells (3-4).
The A7R34 antibody is widely used to identify CD127/IL-7Rα expression on both B and T cells (6).

Background References

1. Rochman, Y. et al. (2009) *Nat Rev Immunol* 9, 480-90.
2. Levin, S.D. et al. (1999) *J Immunol* 162, 677-83.
3. Schluns, K.S. et al. (2000) *Nat Immunol* 1, 426-32.
4. Rochman, Y. and Leonard, W.J. (2008) *J Immunol* 181, 7699-705.
5. McElroy, C.A. et al. (2012) *Proc Natl Acad Sci U S A* 109, 2503-8.
6. Sudo, T. et al. (1993) *Proc Natl Acad Sci U S A* 90, 9125-9.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Applications Key

FC-L: Flow Cytometry (Live)

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster **X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse **GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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