

Store at  
4°C

# CD127/IL-7R $\alpha$ (A7R34) Rat mAb (FITC Conjugate)

#47903

Support: +1-978-867-2388 (U.S.)  
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orders@cellsignal.comEntrez-Gene ID #16197  
UniProt ID #P16872

New 07/19

**For Research Use Only. Not For Use In Diagnostic Procedures.****Applications**  
F  
Endogenous**Species Cross-Reactivity**  
M**Isotype**  
Rat IgG2a

**Description:** This Cell Signaling Technology antibody is conjugated to FITC 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-7R $\alpha$  (IL-7R $\alpha$ ) 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-7R $\alpha$  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-7R $\alpha$  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-7R $\alpha$  is observed on naive and activated T cells, which occurs following TCR activation. Specifically, CD127/IL-7R $\alpha$  expression is downregulated on activated T cells and the subsequent re-expression of CD127/IL-7R $\alpha$  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-7R $\alpha$  expression on both B and T cells (6).

**Specificity/Sensitivity:** CD127/IL-7R $\alpha$  (A7R34) Rat mAb (FITC Conjugate) recognizes endogenous levels of total CD127/IL-7R $\alpha$  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.

**Storage:** Supplied in 10 mM NaH<sub>2</sub>PO<sub>4</sub>, 150 mM NaCl, 0.09% Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>, 0.1% gelatin, pH 7.2. This product is stable for 6 months when stored at 4°C. *Do not aliquot the antibody. Protect from light. Do not freeze.*

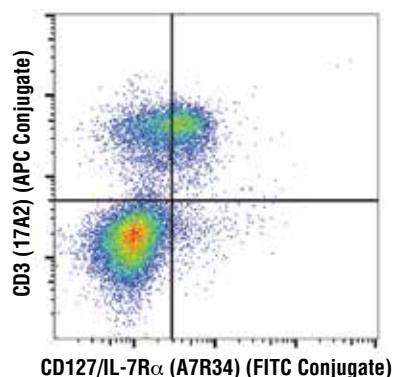
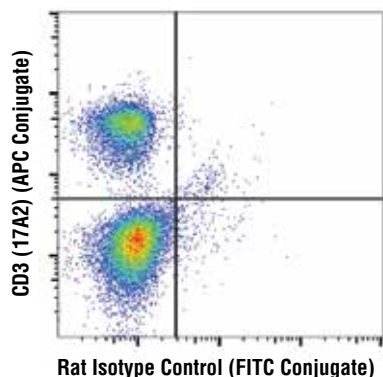
**Recommended Antibody Dilutions:**

Flow Cytometry 1:50

**For product specific protocols and a complete listing of recommended companion products please see the product web page at [www.cellsignal.com](http://www.cellsignal.com).**

**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.



Flow cytometric analysis of live mouse splenocytes using CD127/IL-7R $\alpha$  (A7R34) Rat mAb (FITC Conjugate) and co-stained with CD3 (17A2) Rat mAb (APC Conjugate) #24265 (right), compared to concentration-matched Rat Isotype Control (FITC Conjugate) (left).

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**Applications:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide **Species Cross-Reactivity:** H—human M—mouse R—rat Hm—hamster Mk—monkey 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 All—all species expected *Species enclosed in parentheses are predicted to react based on 100% homology.*