

## DESCRIPTION

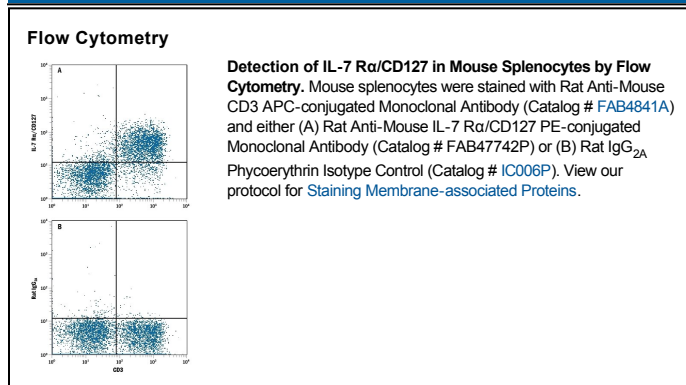
<b>Species Reactivity</b>	Mouse
<b>Specificity</b>	Detects mouse IL-7 R $\alpha$ /CD127 in flow cytometry.
<b>Source</b>	Monoclonal Rat IgG <sub>2A</sub> Clone # A7R34
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Recombinant mouse IL-7 R $\alpha$ /CD127
<b>Conjugate</b>	Phycoerythrin Excitation Wavelength: 488 nm Emission Wavelength: 565-605 nm
<b>Formulation</b>	Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.  *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
<b>Flow Cytometry</b>	10 $\mu$ L/10 <sup>6</sup> cells	See Below

## DATA



## PREPARATION AND STORAGE

**Shipping** The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage** **Protect from light. Do not freeze.**

- 12 months from date of receipt, 2 to 8 °C as supplied.

**BACKGROUND**

Interleukin 7 Receptor alpha (IL-7 R $\alpha$ ), also known as CD127, is a 75 kDa hematopoietin receptor superfamily member that plays an important role in lymphocyte differentiation, proliferation, and survival (1, 2). Mature mouse IL-7 R $\alpha$  consists of a 219 amino acid (aa) extracellular domain (ECD) with one fibronectin type III domain and a WSxWS motif, a 25 aa transmembrane segment, and a 195 aa cytoplasmic domain (3). Within the ECD, mouse IL-7 R $\alpha$  shares 67% and 79% aa sequence identity with human and rat IL-7 R $\alpha$ , respectively. IL-7 R $\alpha$  associates with the common  $\gamma_c$  chain ( $\gamma_c$ ) to form the functional high affinity IL-7 receptor complex (4). The  $\gamma_c$  is also a subunit of the receptors for IL-2, -4, -9, -15, and -21. Human and mouse IL-7 show cross-species activity through the IL-7 receptor (3, 5). IL-7 R $\alpha$  is expressed on double negative (CD4<sup>-</sup>CD8<sup>-</sup>) and CD4<sup>+</sup> or CD8<sup>+</sup> single positive T cells as well as on CD8<sup>+</sup> memory T cells and their precursors (6, 7). It is expressed early in B cell development, prior to the appearance of surface IgM (6). In mice, IL-7 activation of IL-7 R $\alpha$  is critical for both T cell and B cell lineage development (8). In humans it is required for T cell but not for B cell development (9). IL-7 induces the down regulation and shedding of cell surface IL-7 R $\alpha$  (10). IL-7 R $\alpha$  additionally associates with TSLP R to form the functional receptor for thymic stromal lymphopoietin (11, 12). TSLP indirectly regulates T cell development by modulating dendritic cell activation (2, 13). Knockout of TSLP R in mice provokes minor changes in B and T cell development compared to those seen with IL-7 R $\alpha$  deletion (8, 14). The complexity of IL-7 R $\alpha$  biology is suggested by the competition between IL-7 and TSLP for receptor binding and by the ability of IL-7 R $\alpha$  to form functional complexes with SCF R and HGF R (11, 12, 15, 16).

**References:**

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