

DESCRIPTION

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|---------------------------|--|
| Species Reactivity | Mouse |
| Specificity | Detects mouse IL-7 R α /CD127 in flow cytometry. |
| Source | Monoclonal Rat IgG _{2A} Clone # A7R34 |
| Purification | Protein A or G purified from hybridoma culture supernatant |
| Immunogen | Recombinant mouse IL-7 R α /CD127 |
| Conjugate | Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm |
| Formulation | 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. |

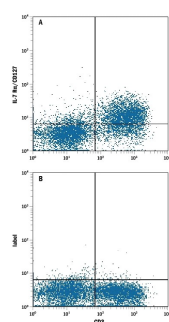
APPLICATIONS

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 |
|-----------------------|----------------------------------|---------------|
| Flow Cytometry | 5 μ L/10 ⁶ cells | See Below |

DATA

Flow Cytometry



Detection of IL-7 R α /CD127 in Mouse Splenocytes by Flow Cytometry. Mouse splenocytes were stained with Rat Anti-Mouse CD3 APC-conjugated Monoclonal Antibody (Catalog # [FAB4841A](#)) and either (A) Rat Anti-Mouse IL-7 R α /CD127 Alexa Fluor® 488-conjugated Monoclonal Antibody (Catalog # [FAB47742G](#)) or (B) Rat IgG_{2A} Alexa Fluor 488 Isotype Control (Catalog # [IC006G](#)). View our protocol for [Staining Membrane-associated Proteins](#).

PREPARATION AND STORAGE

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|--------------------------------|---|
| 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 α), 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 α 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 α shares 67% and 79% aa sequence identity with human and rat IL-7 R α , respectively. IL-7 R α associates with the common γ chain (γ_c) to form the functional high affinity IL-7 receptor complex (4). The γ_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 α is expressed on double negative (CD4⁺CD8⁻) and CD4⁺ or CD8⁺ single positive T cells as well as on CD8⁺ 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 α 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 α (10). IL-7 R α 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 α deletion (8, 14). The complexity of IL-7 R α biology is suggested by the competition between IL-7 and TSLP for receptor binding and by the ability of IL-7 R α to form functional complexes with SCF R and HGF R (11, 12, 15, 16).

References:

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