Mouse IL-7 Rα/CD127
Alexa Fluor® 488-conjugated Antibody

Monoclonal Rat IgG_{2A} Clone # A7R34

Catalog Number: FAB47742G
100 TESTS

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse IL-7 Rα/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 Rα/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.

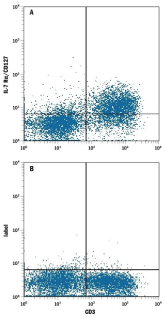
APPLICATIONS

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 µL/10^6 cells	See Below

DATA

Flow Cytometry



Detection of IL-7 Rα/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 Rα/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

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.

bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956

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BACKGROUND

Interleukin 7 Receptor alpha (IL-7 Rα), 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 Rα 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 Rα shares 67% and 79% aa sequence identity with human and rat IL-7 Rα, respectively. IL-7 Rα 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 Rα 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 Rα 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 Rα (10). IL-7 Rα 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 Rα deletion (8, 14). The complexity of IL-7 Rα biology is suggested by the competition between IL-7 and TSLP for receptor binding and by the ability of IL-7 Rα to form functional complexes with SCF R and HGF R (11, 12, 15, 16).

References:

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bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
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