

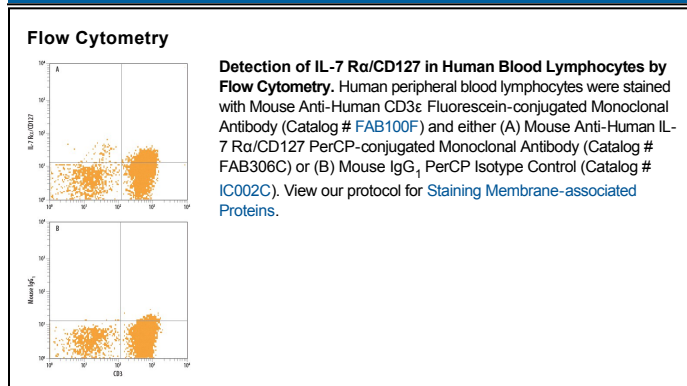
DESCRIPTION	
Species Reactivity	Human
Specificity	Detects human IL-7 R α in Western blots. In Western blots, approximately 5% cross-reactivity was observed with recombinant human (rh) IL-10 R, rhIL-2 R β , rhIL-5 R α , and rhIL-6 R.
Source	Monoclonal Mouse IgG ₁ Clone # 40131
Purification	Protein A or G purified from ascites
Immunogen	Mouse myeloma cell line NS0-derived recombinant human IL-7 R α Extracellular domain
Conjugate	PerCP (Peridinin-chlorophyll Protein Complex) Excitation Wavelength: 482 and 564 nm Emission Wavelength: 675 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	10 μ L/10 ⁶ 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. <ul style="list-style-type: none"> 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 human 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). Alternate splicing of human IL-7 R α generates a secreted soluble form of the receptor (3). Within the ECD, human IL-7 R α shares 67% aa sequence identity with mouse and rat IL-7 R α . 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 mouse, IL-7 activation of IL-7 R α is critical for both T cell and B cell lineage development (8). In human, by contrast, it is required for T cell but not for B cell development (9). IL-7 induces the downregulation 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:

1. Mazzucchelli, R. and S.K. Durum (2007) *Nat. Rev. Immunol.* **7**:144.
2. Liu, Y.-J. *et al.* (2007) *Annu. Rev. Immunol.* **25**:193.
3. Goodwin, R.G. *et al.* (1990) *Cell* **60**:941.
4. Noguchi, M. *et al.* (1993) *Science* **262**:1877.
5. Barata, J.T. *et al.* (2006) *Exp. Hematol.* **34**:1133.
6. Sudo, T. *et al.* (1993) *Proc. Natl. Acad. Sci. USA* **90**:9125.
7. Kaech, S.M. *et al.* (2003) *Nat. Immunol.* **4**:1191.
8. Peschon, J.J. *et al.* (1994) *J. Exp. Med.* **180**:1955.
9. Prieyl, J.A. and T.W. LeBien (1996) *Proc. Natl. Acad. Sci. USA* **93**:10348.
10. Vranjkovic, A. *et al.* (2007) *Int. Immunol.* **19**:1329.
11. Park, L.S. *et al.* (2000) *J. Exp. Med.* **192**:659.
12. Pandey, A. *et al.* (2000) *Nat. Immunol.* **1**:59.
13. Reche, P.A. *et al.* (2001) *J. Immunol.* **167**:336.
14. Al-Shami, A. *et al.* (2004) *J. Exp. Med.* **200**:159.
15. Jahn, T. *et al.* (2007) *Blood* **110**:1840.
16. Lai, L. *et al.* (2006) *Blood* **107**:1776.