Human IL-7 Rα/CD127
Alexa Fluor® 350-conjugated Antibody

Monoclonal Mouse IgG_1 Clone # 40131

Catalog Number: FAB306U

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IL-7 Rα in Western blots. In Western blots, approximately 5% cross-reactivity was observed with recombinant human (rh) IL-10 R, rhIL-2 Rβ, rhIL-5 Rα, 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 Rα Extracellular domain
Conjugate	Alexa Fluor 350 Excitation Wavelength: 346 nm Emission Wavelength: 442 nm
Formulation	Supplied 0.2 mg/mL 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	0.25-1 µg/10^6 cells	Human peripheral blood lymphocytes

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 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 human 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). Alternate splicing of human IL-7 Rα generates a secreted soluble form of the receptor (3). Within the ECD, human IL-7 Rα shares 67% aa sequence identity with mouse and rat IL-7 Rα. 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 mouse, IL-7 activation of IL-7 Rα 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 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:

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.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449

Human IL-7 Rα/CD127
Alexa Fluor® 350-conjugated Antibody

Monoclonal Mouse IgG_1 Clone # 40131

Catalog Number: FAB306U
100 µg

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449