

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IL-3 R α /CD123 in direct ELISAs and Western blots.
Source	Monoclonal Mouse IgG ₁ Clone # 32703
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant human IL-3 R α /CD123 Lys20-Arg305, predicted Accession # P26951
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 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	THP-1 human acute monocytic leukemia cell line

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

IL-3 is a pleiotropic cytokine that can stimulate proliferation and differentiation of pluripotent hematopoietic stem cells as well as various lineage committed progenitors (1, 2). IL-3 exerts its activity through binding to a specific cell surface receptor known as IL-3 R. IL-3 R is a heterodimeric structure composed of a 70 kDa IL-3 R α subunit (CD123) and a 120-140 kDa IL-3 R β subunit (CD131) (3, 4). IL-3 R α binds IL-3 with relatively low affinity. In the presence of IL-3 R β , however, IL-3 R α has a much higher affinity for IL-3. It is not clear how signal transduction occurs following IL-3 binding. The IL-3 R α chain has a very short intracellular domain while the IL-3 R β chain has a very large cytoplasmic domain. The IL-3 R β chain is also shared by the receptors for IL-5 and GM-CSF. Cells known to express IL-3 receptors include hematopoietic progenitors, epithelial cells, double negative T cells, mast cells, basophils and blood monocytes (5).

References:

- Moore, M.A.S. *et al.* (1991) *Blood* **72**:944.
- Warren, D.J. *et al.* (1988) *J. Immunol.* **140**:94.
- Plant M. *et al.* (1989) *Nature* **339**:150.
- Budel, L.M. *et al.* (1990) *Blood* **75**:1439.
- Schrader, J.W. *et al.* (1988) In *Interleukin-3: The Panspecific hemopoietin* (ed. J.W. Schrader), Academic Press, San Diego, CA.

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.