

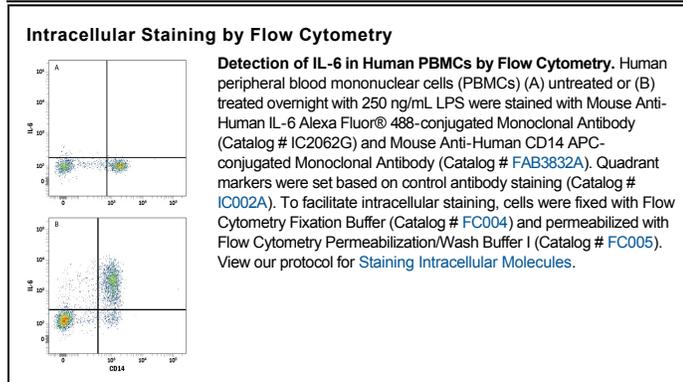
DESCRIPTION	
Species Reactivity	Human
Specificity	Detects human IL-6 in direct ELISAs.
Source	Monoclonal Mouse IgG ₁ Clone # 903129
Purification	Protein A or G purified from ascites
Immunogen	<i>E. coli</i> -derived recombinant human IL-6 Pro29-Met212 Accession # Q75MH2
Conjugate	Alexa Fluor 488 Excitation 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
Intracellular Staining by Flow Cytometry	5 µL/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 6 (IL-6) is a pleiotropic α -helical cytokine that plays important roles in acute phase reactions, inflammation, hematopoiesis, bone metabolism, and cancer progression. IL-6 activity is essential for the transition from acute inflammation to either acquired immunity or chronic inflammatory disease. It is secreted by multiple cell types as a 22-28 kDa phosphorylated and variably glycosylated molecule (1-4). Mature human IL-6 is 183 amino acids (aa) in length and shares 41% aa sequence identity with mouse and rat IL-6 (5). Alternate splicing generates several isoforms with internal deletions, some of which exhibit antagonistic properties (6-9). Human IL-6 is equally active on mouse and rat cells (10). IL-6 induces signaling through a cell surface heterodimeric receptor complex composed of a ligand binding subunit (IL-6 R) and a signal transducing subunit (gp130). IL-6 binds to IL-6 R, triggering IL-6 R association with gp130 and gp130 dimerization (11). gp130 is also a component of the receptors for CLC, CNTF, CT-1, IL-11, IL-27, LIF, and OSM (12). Soluble forms of IL-6 R are generated by both alternate splicing and proteolytic cleavage (3). In a mechanism known as trans-signaling, complexes of soluble IL-6 and IL-6 R elicit responses from gp130-expressing cells that lack cell surface IL-6 R (3).

Trans-signaling enables a wider range of cell types to respond to IL-6, as the expression of gp130 is ubiquitous, while that of IL-6 R is predominantly restricted to hepatocytes, leukocytes, and lymphocytes (3). Soluble splice forms of gp130 block trans-signaling from IL-6/IL-6 R but not from other cytokines that utilize gp130 as a coreceptor (4, 13).

References:

1. Van Snick, J. (1990) *Annu. Rev. Immunol.* **8**:253.
2. Hodge, D.R. *et al.* (2005) *Eur. J. Cancer* **41**:2502.
3. Jones, S.A. (2005) *J. Immunol.* **175**:3468.
4. Rose-John, S. *et al.* (2006) *J. Leukoc. Biol.* **80**:227.
5. Hirano, T. *et al.* (1986) *Nature* **324**:73.
6. Alberti, L. *et al.* (2005) *Cancer Res.* **65**:2.
7. Kestler, D.P. *et al.* (1995) *Blood* **86**:4559.
8. Kestler, D.P. *et al.* (1999) *Am. J. Hematol.* **61**:169.
9. Bihl, M.P. *et al.* (2002) *Am. J. Respir. Cell Mol. Biol.* **27**:48.
10. Chiu, C.P. *et al.* (1988) *Proc. Natl. Acad. Sci. USA* **85**:7099.
11. Murakami, M. *et al.* (1993) *Science* **260**:1808.
12. Muller-Newen, G. (2003) *Sci. STKE* **2003**:PE40.
13. Mitsuyama, K. *et al.* (2006) *Clin. Exp. Immunol.* **143**:125.

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