Diaclone
IMMUNOLOGY PRODUCTS & SERVICES

6 rue Dr Jean-François-Xavier Girod
BP 1985
25020 Besançon cedex - France

Tel: +33 (0)3 81 41 38 38
Fax: +33 (0)3 81 41 36 36
www.diaclone.com
Email: Info@diaclone.com

Anti-Human IL-6 Azide Free

PRODUCT SPECIFICATIONS

Catalogue N°	855.050.000 - 200µg / 200µl 855.050.005 - 500µg / 500µl
Target species	Human
Specificity	Recognises both natural and recombinant human IL-6
Clone	B-E8
Application	ELISA Flow Cytometry Functional assay ELISpot
Hybridoma	Myeloma X63/AG.8653 x Balb/c spleen cells
Immunisation	Recombinant human IL-6
Quantity	200µg or 500µg (Discovery Size also available please enquire)
Isotype	Mouse IgG1 Kappa light chain
Format	Phosphate-buffered saline. Sterile-filtered through 0.22 µm. Carrier and preservative free
Storage	Stable at +2-8°C for 12 months. For longer storage freeze aliquots.
Biological Activity	Inhibits IL-6 induced proliferation on XG1 cell line

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France

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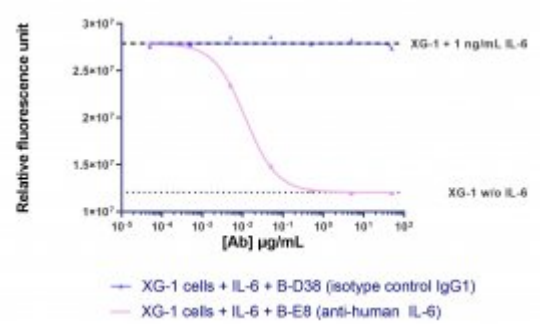
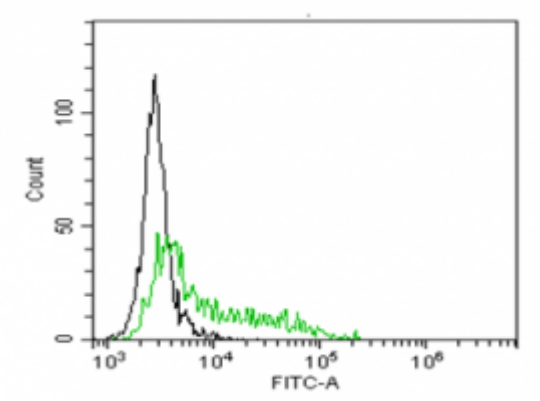
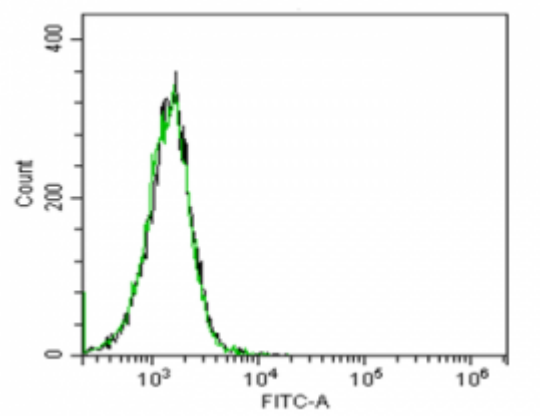


Graph 1: XG1 cell proliferation measurement with resazurin after 96 hours with IL-6 (1ng/ml) and different concentrations of antibody.



Graph 2: Activated monocytes marked with B-E8



Graph 3: B-E8 with non-activated monocytes
In the two cases, the dotted line represents the IgG1 isotype control

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BACKGROUND

Interleukin-6 (IL-6) is a multi-functional cytokine that regulates immune responses, acute phase reactions and hematopoiesis and may play a central role in host defense mechanisms. The gene for human IL-6 has been localized to chromosome 7p21. The genomic sequence has been determined. IL-6 is usually not produced constitutively by normal cells, but its expression is readily induced by a variety of cytokines, lipopolysaccharide or viral infections. The IL-6 gene product is a single chain protein with a molecular mass ranging from 21 to 28 kDa, depending on the cellular source. Extensive posttranslational modifications like N- and O-linked glycosylation as well as phosphorylation seem to account for this heterogeneity. The cDNA for IL-6 predicts a precursor protein of 212 amino acids. IL-6 is a pleiotropic cytokine produced by a variety of cells. It acts on a wide range of tissues, exerting growth-induction, growth-inhibition, and differentiation respectively, depending on the nature of the target cells.

IL-6 is involved in

- the induction of B-cell differentiation,
- the induction of acute phase proteins in liver cells,
- growth promotion of myeloma/plasmacytoma/hybridoma cells,
- induction of IL-2 and IL-2 receptor expression,
- proliferation and differentiation of T cells,
- inhibition of cell growth of certain myeloid leukemic cell lines and induction of their differentiation to macrophages,
- enhancement of IL-3-induced multipotential colony cell formation in hematopoietic stem cells and induction of maturation of megakaryocytes as a thrombopoietic factor,
- induction of mesangial cell growth,
- induction of neural differentiation of PC 12 cells and
- induction of keratinocyte growth

The abnormal production of IL-6 was first suggested to be related to polyclonal B-cell activation with autoantibody production in patients with cardiac myxoma (9). Since then, IL-6 has been suggested to be involved in the pathogenesis of a variety of diseases. Measurement of IL-6 levels in serum and other body fluids thus provides more detailed insights into various pathological situations. For example:

Infections:

Body fluids of patients with acute local bacterial or viral infections and serum of patients with gram-negative or positive bacteremia contain elevated levels of biologically active IL-6 (7, 16).

Obstetric Infections:

IL-6 has emerged as a reporter cytokine for intra-amniotic infection.

Diseases associated with an altered immune system (polyclonal B-cell abnormalities or autoimmune diseases):

Elevated levels of circulating IL-6 have been detected in patients with cardiac myxoma, Castleman's disease, rheumatoid arthritis, IgM gammopathy and in those with acquired immunodeficiency syndrome as well as alcoholic liver cirrhosis.

Proliferative diseases:

Elevated plasma levels of IL-6 are observed in patients with psoriasis and mesangial proliferative glomerulonephritis.

Neoplastic Diseases:

Increased systemic levels of IL-6 have been detected in patients with multiple myeloma, other B-cell dyscrasias, Lennert's T lymphoma, Castleman's disease, renal cell carcinoma and various other solid tumors.

Inflammatory responses:

IL-6 is involved in the induction of acute phase proteins and induction of fever. Elevated serum levels of IL-6 are also found in patients with severe burns, in serum and plasma as a marker for predicting postoperative complications, in serum and urine of recipients of kidney transplants before rejection, in the serum of septic shock patients and in patients with inflammatory arthritis and traumatic arthritis.