

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IL-12 in ELISAs and Western blots. When used in combination with the monoclonal capture antibody anti-human IL-12 p40 (Catalog # MAB609) in sandwich ELISAs, less than 2.5% cross-reactivity was observed with rhIL-12 p70. When used in combination with the monoclonal capture antibody anti-human IL-12 p70 (Catalog # MAB611) in sandwich ELISAs, less than 0.1% cross-reactivity was observed with rhIL-12 p40, rhIL-12 p35 and rmlIL-12.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant human IL-12 heterodimer Arg23-Ser219 of p35; Ile23-Ser328 of p40 Accession # P29459 (p35) & P29460 (p40)
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

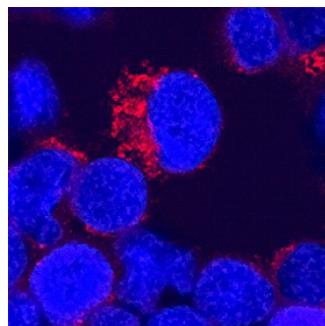
APPLICATIONS

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
Western Blot	0.1 µg/mL	Recombinant Human IL-12 (Catalog # 219-IL)
Immunocytochemistry	5-15 µg/mL	See Below
Human IL-12/IL-23 p40 Sandwich Immunoassay		Reagent
ELISA Capture	2-8 µg/mL	Human IL-12/IL-23 p40 Antibody (Catalog # MAB609)
ELISA Detection	0.1-0.4 µg/mL	Human IL-12 Biotinylated Antibody (Catalog # BAF219)
Standard		Recombinant Human IL-12/IL-23 p40 Monomer (Catalog # 309-IL)
Human IL-12 p70 Sandwich Immunoassay		Reagent
ELISA Capture	2-8 µg/mL	Human IL-12 p70 Antibody (Catalog # MAB611)
ELISA Capture	2-8 µg/mL	Human IL-12 p70 Antibody (Catalog # MAB611R)
ELISA Detection	0.1-0.4 µg/mL	Human IL-12 Biotinylated Antibody (Catalog # BAF219)
Standard		Recombinant Human IL-12 (Catalog # 219-IL)

DATA

Immunocytochemistry



IL-12 in Human PBMCs. IL-12 was detected in immersion fixed human peripheral blood mononuclear cells (PBMCs) stimulated with calcium ionomycin and PMA using Goat Anti-Human IL-12 Biotinylated Antigen Affinity-purified Polyclonal Antibody (Catalog # BAF219) at 15 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Streptavidin (red; Catalog # NL999) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for [Fluorescent ICC Staining of Non-adherent Cells](#).

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Interleukin 12, also known as natural killer cell stimulatory factor (NKSF) or cytotoxic lymphocyte maturation factor (CLMF), is a pleiotropic cytokine originally identified in the medium of activated human B lymphoblastoid cell lines. The p40 subunit of IL-12 has been shown to have extensive amino acid sequence homology to the extracellular domain of the human IL-6 receptor while the p35 subunit shows distant but significant sequence similarity to IL-6, G-CSF, and chicken MGF. These observations have led to the suggestion that IL-12 might have evolved from a cytokine/soluble receptor complex. Human and murine IL-12 share 70% and 60% amino acid sequence homology in their p40 and p35 subunits, respectively. IL-12 apparently shows species specificity with human IL-12 reportedly showing minimal activity in the murine system.

IL-12 is produced by macrophages and B lymphocytes and has been shown to have multiple effects on T cells and natural killer (NK) cells. These effects include inducing production of IFN- γ and TNF by resting and activated T and NK cells, synergizing with other IFN- γ inducers at both the transcriptional and post-transcriptional levels. This interaction induces IFN- γ gene expression, enhancing the cytotoxic activity of resting NK and T cells, inducing and synergizing with IL-2 in the generation of lymphokine-activated killer (LAK) cells, acting as a co-mitogen to stimulate proliferation of resting T cells, and inducing proliferation of activated T and NK cells. Evidence indicates that IL-12, produced by macrophages in response to infectious agents, is a central mediator of the cell-mediated immune response by its actions on the development, proliferation, and activities of TH1 cells. In its role as the initiator of cell-mediated immunity, it has been suggested that IL-12 has therapeutic potential as a stimulator of cell-mediated immune responses to microbial pathogens, metastatic cancers, and viral infections such as AIDS.