**DESCRIPTION**

**Species Reactivity** Human

**Specificity** Detects human IL-12 p70 in ELISAs. In sandwich immunoassays, no cross-reactivity with recombinant human (rh) IL-12 p40, rhIL-12 p35, rhIL-23 or recombinant mouse IL-12 is observed.

**Source** Monoclonal Mouse IgG, Clone # 24945

**Purification** Protein A or G purified from hybridoma culture supernatant

**Immunogen** SF21-derived recombinant human IL-12 heterodimer

**Formulation** Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

**APPLICATIONS**

**Recommended Concentration** 8-25 µg/mL

**Sample** See Below

**Human IL-12 p70 Sandwich Immunoassay**

**ELISA Capture** 2-8 µg/mL

**Reagent** Human IL-12 p70 Antibody (Catalog # MAB611)

**Detection** 0.1-0.4 µg/mL

**Sample** Human IL-12 Biotinylated Antibody (Catalog # BAF219)

**Standard** Recombinant Human IL-12 (Catalog # 219-IL)

**DATA**

**Immunocytochemistry** IL-12 p70 in Human PBMCs. IL-12 p70 was detected in immuno fixed human peripheral blood mononuclear cells (PBMCs) using Mouse Anti-Human IL-12 p70 monoclonal Antibody (Catalog # MAB611) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). View our protocol for Fluorescent ICC Staining of Non-adherent Cells.

**PREPARATION AND STORAGE**

**Reconstitution** Reconstitute at 0.5 mg/mL in sterile PBS.

**Shipping** The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped either lyophilized or as a 0.2 µm filtered solution in PBS.

**Stability & Storage**

- Use a manual defrost freezer and avoid repeated freeze-thaw cycles.
- 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 pleiotrophic 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. Current 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.

**REFERENCES**

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