DESCRIPTION

Species Reactivity: Human

Specificity: Detects human IL-12 in direct ELISAs and Western blots. In direct ELISAs and Western blots, less than 10% cross-reactivity with recombinant mouse IL-12 is observed.

Source: Polyclonal Goat IgG

Purification: Antigen Affinity-purified

Immunogen: S. frugiperda insect ovarian cell line SF21-derived recombinant human IL-12 heterodimer

Accession #: P29459 (p35) & P29460 (p40)

Endotoxin Level: <0.10 EU per 1 μg of the antibody by the LAL method.

Formulation: Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. 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

Immersion fixed human peripheral blood mononuclear cells

Neutralization

Measured by its ability to neutralize IL-12-induced proliferation in PHA-activated human peripheral blood mononuclear cells (PBMC), Yokota, T. et al. (1986) Proc. Natl. Acad. Sci. USA 83:5894. The Neutralization Dose (ND50) is typically 0.03-0.05 μg/mL in the presence of 1 ng/mL Recombinant Human IL-12.

DATA

Cell Proliferation Induced by IL-12 and Neutralization by Human IL-12 Antibody.

Recombinant Human IL-12 (Catalog # 219-IL) stimulates proliferation in PHA-activated human peripheral blood mononuclear cells (PBMC) in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Human IL-12 (1 ng/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Human IL-12 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF-219-NA). The ND50 is typically 0.03-0.05 μg/mL.

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.

*Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C

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.
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. 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.