Recombinant Human Interleukin 12

Catalog Number: SJB12
Strength: 20μg, 100μg

Specifications and Use

Source	● Yeast.
Molecular Mass	● Approximately 60-80kD glycosylated protein.
Purity	● ≥97%.
Endotoxin Level	● <1EU/μg, determined by the LAL method.
Biological Activity	● Measured in a cell proliferation assay using PBMC after being induced by IL-2. The specific activity shall be not less than 1×10^7IU/mg.
Formulation	● Sterile lyophilized powder, in PBS containing 0.1% HSA, pH7.4.
Reconstitution	● It is recommended to reconstitute the lyophilized rHuIL-12 in 0.2ml sterile water.
Storage	● Lyophilized samples are stable for 36 months from date of manufacture at -20℃ to -70℃. ● Upon reconstitution, this cytokine can be stored under sterile conditions at 2-8℃ for one month or at -20℃ to -70℃ **in a manual defrost freezer** for three months without detectable loss of activity. ● **Avoid repeated freeze-thaw cycles.**

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.

FOR LABORATORY USE ONLY.