

Animal-Free | Endotoxin-Free | Carrier-Free

IL-4, human, recombinant

Catalog Number: IK2300

DESCRIPTION

Interleukin 4 (IL-4) is a pleiotropic cytokine produced by activated T-cells, mast cells and basophils. IL-4 has many different functions including promoting proliferation and differentiation of immunologically competent cells. One of its main functions is regulating differentiation of native CD4+ T-cells into helper Th2 cells, the other main function is regulating B-cells IgE and IgG1 production. Human IL-4 shows 50% homology with mouse IL-4, but its activities are species-specific and human IL-4 shows no activity on murine cells.

SOURCE

Produced in the endosperm tissue of barley grain (*Hordeum vulgare*). ISOkine® growth factors and cytokines are animal-free and serum-free and void of antibiotics, endotoxins, viruses, and prions.

FORMULATION

2xPBS pH 7.2, sterile filtered through 0.22 µm filter.

PURITY

> 95% by SDS-PAGE gel analysis.

SHELF LIFE

The lyophilized protein has a shelf life for 3 years when stored at < 20°C.

RECONSTITUTION

Always centrifuge the vial before opening. It is recommended to reconstitute the lyophilized protein in sterile buffered saline to a concentration of no less than 100 µg/ml. For long term storage of the reconstituted solution, it is recommended to add a carrier protein (0.1% HSA or BSA).

STABILITY

The lyophilized protein, though stable at room temperature for a few weeks, is best stored at -20°C. Reconstituted protein should be used immediately or stored in working aliquots at -20°C. Avoid repeated freeze-thaw cycles.

BIOLOGICAL ACTIVITY

Each batch of ISOkine® growth factors is tested for bioactivity and verified to have comparable activity to a commercial source. The bioactivity of ISOkine® recombinant human IL-4 is assayed by measuring its dose-dependent effect on the proliferation of TF-1 cells. The ED50 for this effect using IL-4 is typically <0.4 ng/ml. Optimal concentration should be determined for specific applications and cell lines.

ENDOTOXIN LEVEL

Endotoxin level is < 0.0100 EU per µg of ISOkine® product by LAL method.

MAT ASSAY

Purified ISOkine® product carries no pyrogenic or pro-inflammatory contaminants, as assayed with monocyte activation test using Human 10-plex Cytokine Assay measuring IL-6, TNF-alpha and IL-1beta induction. (Ref. The Blood Bank, University Hospital of Iceland, Reykjavik, Iceland.)

MOLECULAR WEIGHT

Recombinant human IL-4 contains 129 amino acids and an N-terminal 6 amino acid histidine tag for a total length of 135 amino acids and has a predicted molecular mass of 15.8 kDa.

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