

Recombinant Human Interleukin-4 (IL-4). Animal and Endotoxin free

CATALOGUE NUMBER: AMS-729

AVAILABLE SIZES: 10µg, 50µg, 100µg and 1000µg

DESCRIPTION

IL-4 (Interleukin 4, B cell stimulatory factor) 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 naive 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 and rat cells.

SOURCE

Recombinant human IL-4 is produced in the endosperm tissue of barley grain (*Hordeum vulgare*), that exhibits up to 50 times less protease activity than *E.coli* or mammalian cells. Barley seed is void of any human or animal viral contaminants that could jeopardize your cell culture.

FORMULATION

Sterile filtered through a 0.2 µm filter. Lyophilized from PBS, pH7,2

PURITY

Greater than 95% by SDS-PAGE gel analysis.

RECONSTITUTION

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

STABILITY

The lyophilized protein, though stable at room temperature for 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 growth factor is tested for bioactivity and verified to have comparable activity to a commercial source. The bioactivity of recombinant human IL-4 was determined by its dose-dependent effects on the proliferation of TF-1 cells. The ED50 value for this effect is typically < 0.6 ng/ml, corresponding to a specific activity > 1.7 x 10e6 units/mg. Optimal concentration should be determined for specific applications and cell lines.

ENDOTOXIN LEVEL

Endotoxin level is less than 0.005ng per µg of product (0.05EU/µg) as measured by turbidimetric kinetic assay. Ref. Associates of Cape Cod Industries, Deacon Park, Knowsley, Liverpool, UK

MAT assay

Purified 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 130 amino acids and a 16 a.a. Histidine-based tag for a total length of 146 a.a. and has a predicted molecular mass of 17.2 kDa. The recombinant protein migrates as two bands with an apparent molecular mass of 23 kDa and 24 kDa in SDS-PAGE.