

EGF, human, recombinant

Catalog Number: IK0100

Available sizes: 10 µg, 50 µg, 100 µg, 1000 µg

DESCRIPTION

Epidermal Growth Factor (EGF) is a potent growth factor that plays an important role in the regulation of cell growth, proliferation and differentiation. It stimulates the proliferation of various epidermal and epithelial cells. EGF has been shown to inhibit gastric secretion, promote colony formation of epidermal cells in culture and to be involved in wound healing. EGF is the prototype of a large family of EGF-like proteins, it signals through the c-erbB receptor. Recombinant human EGF is a globular protein with 3 intramolecular disulfide-bonds essential for biological activity. Approximately 70% homology is found between human EGF and EGF isolated from other species. The relative positions of the cysteine residues is conserved.

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, bacterial endotoxins, viruses, and prions.

FORMULATION

2xPBS pH 7.2, sterile filtered through 0.2 µm filter.

PURITY

Greater than 95% by SDS-PAGE gel analysis.

RECONSTITUTION

Note: 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 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 EGF is assayed by measuring its dose-dependent effect on the proliferation of 3T3 cells. The ED50 for this effect using EGF is typically <0.1 ng/ml, corresponding to a specific activity > 10 x10⁶ U/mg. Optimal concentration should be determined for specific applications and cell lines.

ENDOTOXIN LEVEL

Endotoxin level is less than 0.005ng per µg of ISOkine® product (0.05EU/µg).

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 EGF contains 53 amino acids and an N-terminal 6 a.a. histidine tag for a total length of 59 a.a. and has a predicted molecular mass of 7 kDa. The recombinant protein migrates with an apparent molecular mass of 9.5 kDa in SDS PAGE.