

# Recombinant human Epidermal Growth Factor (EGF)

## Animal and Endotoxin free

CATALOGUE NUMBER: AMS-060-100

SIZE: 100µg

### 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*).

### FORMULATION

PBS pH 7.2, sterile filtered

### 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 water 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 epidermal growth factor is tested for bioactivity and verified to have comparable activity to a commercial source. Bioactivity of recombinant human EGF is assayed by measuring its dose dependent effect on proliferation of 3T3 cells. The ED50 for this effect using EGF is typically < 0.1 ng/ml, corresponding to a specific activity > 10 x10e6 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 recombinant product (0.05EU/µg).

### MAT assay

Purified recombinant 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.

### MOLECULAR WEIGHT

Recombinant human EGF contains 54 amino acids and a 16 a.a. histidine-based tag for a total length of 70 a.a. and has a predicted molecular mass of 8.5 kDa including his-tag. The recombinant protein migrates with an apparent molecular mass of 11 kDa in SDS-PAGE.