



# Recombinant Protein Technical Manual

## Recombinant Human EGF Protein (Fc Tag)(Active)

RPES1293

### Product Data:

**Product SKU:** RPES1293

**Size:** 100µg

**Species:** Human

**Expression host:** HEK293 Cells

**Uniprot:** NP\_001954.2

### Protein Information:

**Molecular Mass:** 33 kDa

**AP Molecular Mass:** 37 kDa

**Tag:** N-Fc

**Bio-activity:** Measured in a cell proliferation assay using Balb/C 3T3 mouse embryonic fibroblast cells. The ED50 for this effect is typically 0.1-0.6 ng/mL.

**Purity:** > 90 % as determined by reducing SDS-PAGE.

**Endotoxin:** < 1.0 EU per µg as determined by the LAL method.

**Storage:** Lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.

**Shipping:** This product is provided as lyophilized powder which is shipped with ice packs.

**Formulation:** Lyophilized from sterile PBS, pH 7.4

1. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA.

2. Please contact us for any concerns or special

**Reconstitution:** Please refer to the printed manual for detailed information.

**Application:** Cell Culture

**Synonyms:** Pro-Epidermal Growth Factor; EGF; Epidermal Growth Factor; Urogastrone

## Immunogen Information:

**Sequence:** Asn 971-Arg 1023

## Background:

EGF is the founding member of the EGF-family of proteins. Members of this protein family have highly similar structural and functional characteristics. EGF contains 9 EGF-like domains and 9 LDL-receptor class B repeats. Human EGF is a 6045-Da protein with 53 amino acid residues and three intramolecular disulfide bonds. As a low-molecular-weight polypeptide, EGF was first purified from the mouse submandibular gland, but since then it was found in many human tissues including submandibular gland, parotid gland. It can also be found in human platelets, macrophages, urine, saliva, milk, and plasma. EGF is a growth factor that stimulates the growth of various epidermal and epithelial tissues *in vivo* and *in vitro* and of some fibroblasts in cell culture. It results in cellular proliferation, differentiation, and survival. Salivary EGF, which seems also regulated by dietary inorganic iodine, also plays an important physiological role in the maintenance of oro-esophageal and gastric tissue integrity. EGF acts by binding with high affinity to epidermal growth factor receptor on the cell surface and stimulating the intrinsic protein-tyrosine kinase activity of the receptor. The tyrosine kinase activity, in turn, initiates a signal transduction cascade that results in a variety of biochemical changes within the cell - a rise in intracellular calcium levels, increased glycolysis and protein synthesis, and increases in the expression of certain genes including the gene for EGFR - that ultimately lead to DNA synthesis and cell proliferation.