

Recombinant Human EGF Protein

Size / Cat.No.: 50 μ g / GMP-TL613-0050

100 μ g / GMP-TL613-0100

Product Name

Generic Name Recombinant Human EGF Protein

Synonym URG, HOMG4

Product Information

Protein sequence P01133-1 was expressed with a His-tag at the C-terminus.

Expression Host HEK293 cells

QC Testing Purity > 90 % as determined by SDS-PAGE.

Activity Measured in a cell proliferation assay using Balb/c 3T3 cells. The ED₅₀ for this effect is \leq 3 ng/mL.

Endotoxin < 0.1EU per 1 μ g of the protein by the LAL method.

Molecular Mass Predicts a molecular mass of 7.0 kD.

Formulation Lyophilized from sterile PBS, pH 7.4. Normally 6 % mannitol are added as protectants before lyophilization.

Stability & Storage 24 months at 2°C to 8°C in lyophilized state.
6 months at -20°C under sterile conditions after reconstitution.
12 months at -80°C under sterile conditions after reconstitution.
Recommend to aliquot the protein into smaller quantities after reconstituting with water for injection, normal saline or PBS, and keep the diluted concentration above 100 μ g/mL.
Avoid repeated freeze-thaw cycles.

Background

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. 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. EGF is widely used as a mitogen in the culture of neural stem cells in vitro, and it can be used as an inducer to promote the differentiation of neural stem cells into neurons, astrocytes and oligodendrocytes.

References

1. Chen JX, et al. (2011) Involvement of c-Src/STAT3 signal in EGF induced proliferation of rat spermatogonial stem cells. *Mol Cell Biochem.*358(1-2):67-73.
2. Guo Y, et al. (2012) Correlations among ERCC1, XPB,UBE2I, EGF, TAL2 and ILF3 revealed by gene signatures of histological subtypes of patients with epithelial ovarian cancer. *Oncol Rep.* 27(1):286-92.
3. Kim S, et al. (2012) Smad7 acts as a negative regulator of the epidermal growth factor (EGF) signaling pathway in breast cancer cells. *Cancer Lett.* 314(2):147-54 .