Product Information

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Epidermal Growth Factor
human, recombinant
expressed in *E. coli*

Catalog Number **E9644**
Storage Temperature –20 °C

CAS RN 62253-63-8
Synonyms: EGF; Urogastrone

Product Description
Epidermal Growth Factor (EGF) is a small mitogenic polypeptide (~6 kDa) which is present in many mammalian species and is distributed throughout a wide number of tissues and body fluids.[1] Human EGF is identical to β-urogastrone, a polypeptide which was recognized and isolated on the basis of its ability to inhibit gastric acid secretion.[2] EGF is a member of a growth factor family which is characterized by the presence of 6 conserved cysteine motifs that form three disulfide bonds. The location of 3 intrachain disulfide bonds in recombinant human EGF is identical to that of mouse EGF.[3] EGF is structurally homologous to human transforming growth factor-α (TGF-α), and both exert their actions through EGF receptors.[4] EGF is homologous to a sequence contained in a 19 kD protein of vaccinia virus,[5] which appears to utilize the EGF receptor to gain entry into cells.[6] EGF is mitogenic for a variety of epidermal and epithelial cells, including fibroblasts, glial cells, mammary epithelial cells, vascular and corneal endothelial cells, bovine granulosa, rabbit chondrocytes, HeLa cells, and SV40-3T3 cells.[1]

This product is lyophilized from a 0.2 μm-filtered solution of phosphate buffered saline, pH 7.4.

Purity: ≥97% (SDS-PAGE)

EC_{50}: 0.08–0.8 ng/ml

The biological activity of recombinant, human EGF is measured by its ability to stimulate the mouse fibroblast cell line, BALB/3T3. The EC_{50} is defined as the effective concentration of growth factor that elicits a 50% increase in cell growth in a cell based bioassay.

Precautions and Disclaimer
This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions
Reconstitute the contents of the vial to 1 mg/ml using 0.2 μm-filtered 10 mM acetic acid. Dilution to lower concentrations (not less than 10 μg/ml), will require addition of 0.1% BSA or HSA. For proliferation assays further dilute the sample with medium without albumin since it interferes with this assay.

Storage/Stability
The product was prepared and packaged using aseptic technique and sealed under vacuum. Store the product at –20 °C. When stored at –20 °C, the product is stable for at least 2 years.

After reconstitution, store at 2–8 °C for a maximum of one month. For extended storage, freeze in working aliquots at –70 °C or –20 °C. Repeated freezing and thawing is not recommended.

References
1. Carpenter, G., and Cohen, S., *Annu. Rev. Biochem.*, **48**, 193-216 (1979).
2. Gregory, H., *Nature*, **257**, 325-327 (1975).
3. George-Nascimento, C., et al., *Biochemistry*, **27**, 797-802 (1988).
4. Todaro, G.J., et al., *Proc. Natl. Acad. Sci. USA*, **77**, 5258-5262 (1980).
5. Blomquist, M.C., et al., *Proc. Natl. Acad. Sci. USA*, **81**, 7363-7367 (1984).
6. Eppstein, D.A., et al., *Nature*, **318**, 663-665 (1985),

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