

Recombinant Human Epidermal Growth Factor GMP

Information

Gene ID	1950
Accession #	P01133
Alternate Names	Urogastrone
Source	Escherichia coli.
M.Wt	Approximately 6.2 kDa, a single non-glycosylated polypeptide chain containing 53 amino acids.
AA Sequence	NSDSECPLSH DGYCLHDGVC MYIEALDKYA CNCVVG YIGE RCQYRDLKWW ELR
Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles A minimum of 12 months when stored at $\leq -20^{\circ}\text{C}$ as supplied Refer to lot specific COA for the Use by Date 1 month, 2 to 8°C under sterile conditions after reconstitution 3 months, -20 to -70°C under sterile conditions after reconstitution
Formulation	Lyophilized from a $0.2\ \mu\text{m}$ filtered concentrated solution in PBS, pH 7.4.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at $\leq -20^{\circ}\text{C}$. Further dilutions should be made in appropriate buffered solutions.
Biological Activity	Fully biologically active when compared to standard. The ED as determined by a cell proliferation assay using murine Balb/c 3T3 cells is less than 0.1 ng/ml, corresponding to a specific activity of $> 1.0 \times 10\ \text{IU/mg}$.
Shipping Condition	Gel pack.
Handling	Centrifuge the vial prior to opening.
Usage	For Research Use Only! Not to be used in humans.

Components and Storage

Components	5 μg	100 μg	
Recombinant Human Epidermal Growth Factor GMP	5 μg	100 μg	

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Quality Control

Purity	> 98 % by SDS-PAGE and HPLC analyses.
Endotoxin	Less than $0.01\text{ EU}/\mu\text{g}$ of rHuEGF GMP as determined by LAL method.

Description

Epidermal Growth Factor (EGF) was originally discovered in crude preparations of nerve growth factor prepared from mouse submaxillary glands as an activity that induced early eyelid opening, incisor eruption, hair growth inhibition, and stunting of growth when injected into newborn mice. Human EGF was isolated from urine based on its inhibitory effect on gastric secretion and named urogastrone, accordingly. EGF is prototypic of a family of growth factors that are derived from membrane-anchored precursors. All members of this family are characterized by the presence of at least one EGF structural unit (defined by the presence of a conserved 6 cysteine motif that forms three disulfide bonds) in their extracellular domain. EGF is initially synthesized as a 130 kDa precursor transmembrane protein containing 9 EGF units. The mature soluble EGF sequence corresponds to the EGF unit located proximal to the transmembrane domain. The membrane EGF precursor is capable of binding to the EGF receptor and was reported to be biologically active. Mature human EGF shares 70 % a.a. sequence identity with mature mouse and rat EGF.

Reference

1. Chevalier RL, Goyal S, Thornhill BA. 1999. J Urol, 162: 1532-6
2. Gehm BD, McAndrews JM, Jordan VC, et al. 2000. Mol Cell Endocrinol, 159: 53-62
3. Yang H, Sun X, Wang Z, et al. 2003. J Membr Biol, 194: 47-58
4. Cohen S. 2008. J Biol Chem, 283: 33793-7.



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