EGF Protein, Human

Cat. No.:	HY-P7109
Synonyms:	rHuEGF; Pro-epidermal growth factor; Urogastrone
Species:	Human
Source:	E. coli
Accession:	P01133-1 (N971-R1023)
Gene ID:	1950
Molecular Weight:	Approximately 7-10 kDa due to the glycosylation

PROPERTIES

AA Sequence	N S D S E C P L S H D G Y C L H D G V C M Y I E A L D K Y A C N C V V G Y I G E R C Q Y R D L K W W E L R
Biological Activity	Measured in a cell proliferation assay using BALB/c 3T3 cells. The ED_{50} for this effect is <300 pg/mL.
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 μm filtered solution of 10 mM Phosphate buffer, pH 7.0, 200 mM NaCl or 20 mM PB, 150 mM NaCl, pH 7.4 or 20 mM Tris, 200 mM NaCl, pH 8.0 or 50 mM Tris-HCL, 200 mM NaCl, pH 8.0 or PBS, pH 7.4, 5% trehalose, 5% mannitol and 0.01% Tween80 or PBS, pH 7.4, 8% trehalose.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	Recombinant Human Epidermal Growth Factor is chemically identical to the natural material, exhibits full biological activity and is ued in wound healing applications. Recombinant Human Epidermal Growth Factor (rhEGF) stimulates proliferation of the fibroblast BALB/c3T3 cell line. Recombinant Human Epidermal Growth Factor released from hydrogels keeps its bioactivity, induces EGF receptor expression, causes proliferating cell nuclear antigen and shows therapeutic potential in enhancing diabetic wound healing[1,2]. EGF Protein (Human) promotes cellular proliferation, differentiation and survival by binding to epidermal growth factor

receptor (EGFR) on the cell surface with high affinity[1].
The biological effects of salivary EGF Protein (Human) include healing of oral and gastroesophageal ulcers, inhibition of gastric acid secretion, stimulation of DNA synthesis as well as mucosal protection from intraluminal injurious factors such as gastric acid, bile acids, pepsin, and trypsin and to physical, chemical and bacterial agents[3].
EGF Protein (Human) works as an enhancer of mineralization during differentiation of mesenchymal stem cells (MSCs) derived from bone marrow. EGF Protein (Human) is capable of increasing calcium deposit formation as well as ALP and OCN gene expression, which is promising for research of an effective adjuvant to improve bone regeneration in periodontics and oral implantology[4,5].

REFERENCES

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