

AR31147PU-N**Human EGF - Purified****Alternate names:**

Epidermal growth factor, HOMG4, Pro-epidermal growth factor, URG, Urogastrone

Quantity:

0.5 mg

Background:

Epidermal growth factor (EGF) is the founding member of the EGF family that also includes TGF α , amphiregulin (AR), betacellulin (BTC), epiregulin (EPR), heparin-binding EGF-like growth factor (HBEGF), epigen, and the neuregulins (NRG) 1 through 6. Members of the EGF family share a structural motif, the EGF-like domain, which is characterized by three intra-molecular disulfide bonds that are formed by six similarly spaced conserved cysteine residues. All EGF family members are synthesized as type I transmembrane precursor proteins that may contain several EGF domains in the extracellular region. The mature proteins are released from the cell surface by regulated proteolysis. The 1207 amino acid (aa) human EGF precursor contains nine EGF domains and nine LDLR class B repeats. The mature protein consists of 53 aa and is generated by proteolytic excision of the EGF domain proximal to the transmembrane region. Mature human EGF shares 70% aa sequence identity with mature mouse and rat EGF. EGF is present in various body fluids, including blood, milk, urine, saliva, seminal fluid, pancreatic juice, cerebrospinal fluid, and amniotic fluid. Four ErbB (HER) family receptor tyrosine kinases including EGFR/ErbB1, ErbB2, ErbB3 and ErbB4, mediate responses to EGF family members. EGF binds ErbB1 and depending on the context, induces the formation of homodimers or heterodimers containing ErbB2. Biological activities ascribed to EGF include epithelial development, angiogenesis, inhibition of gastric acid secretion, fibroblast proliferation, and colony formation of epidermal cells in culture.

Uniprot ID:[P01133](#)**NCBI:**[NP_001954.2](#)**GenEID:**[1950](#)**Species:**

Human

Source:

E. coli

Format:**State:** Sterile, Lyophilized powder.**Purity:** >95% by SDS-PAGE & silver stain**Buffer System:** PBS**Preservatives:** None**Stabilizers:** None**Reconstitution:** A quick spin followed by reconstitution in water to a concentration of 0.1-1.0 mg/ml.

This solution can then be diluted into other aqueous buffers and stored at 4°C for 1 week or -20°C for future use.

Description:

Recombinant Human Epidermal Growth Factor (EGF).

AA Sequence:

MNSDSECLPSHDGYCLHDGVCMYIEALDKYACNCVVG YIGERCQYRDLKW WELR.Â

N-terminal Sequence:Â MNSDSECLPS

Biological Activity: The biological activity was determined by the ability to induce EGF receptor phosphorylation in the A431 tumor cell line [Soler et al, J Chromatography B, 788, 2003] and the induction of proliferation in NHDF cells (Normal Human Dermal Fibroblasts).

Molecular weight: 6.35 kDa (54 amino acids)

Storage:

Store lyophilized at 2-8°C for 6 months or at -20°C long term.

After reconstitution store the antibody undiluted at 2-8°C for one month or (in aliquots) at -20°C long term.

Avoid repeated freezing and thawing.

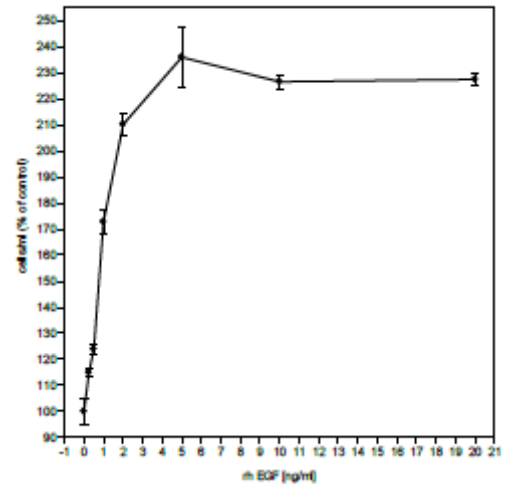
Shelf life: one year from despatch.

General Readings:

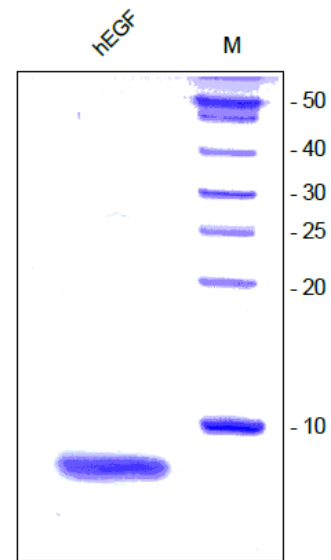
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6. Gamett DC, Pearson G, Cerione RA, Friedberg I. Secondary dimerization between members of the epidermal growth factor receptor family. *J Biol Chem.* 1997 May 2;272(18):12052-6. PubMed PMID: 9115272.
7. Qian X, LeVeae CM, Freeman JK, Dougall WC, Greene MI. Heterodimerization of epidermal growth factor receptor and wild-type or kinase-deficient Neu: a mechanism of interreceptor kinase activation and transphosphorylation. *Proc Natl Acad Sci U S A.* 1994 Feb 15;91(4):1500-4. PubMed PMID: 7509075.
8. Qian X, O'Rourke DM, Fei Z, Zhang HT, Kao CC, Greene MI. Domain-specific interactions between the p185(neu) and epidermal growth factor receptor kinases determine differential signaling outcomes. *J Biol Chem.* 1999 Jan 8;274(2):574-83. PubMed PMID: 9872991.

Pictures:

EGF-induced proliferation of NHDF cells (Normal Human Dermal Fibroblast cells).

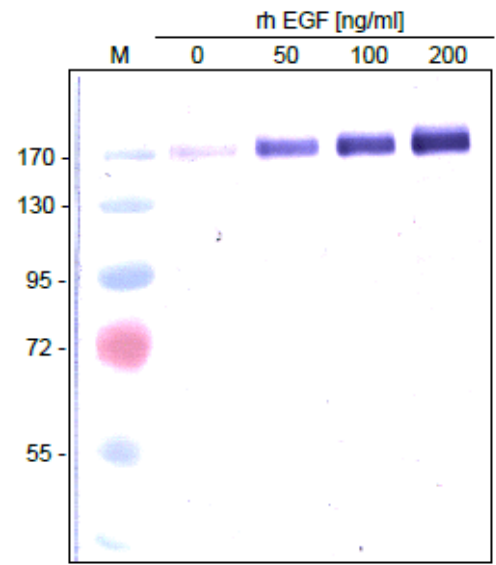


SDS-PAGE analysis of recombinant human EGF. Sample was loaded in 21% SDS-polyacrylamide gel under reducing conditions and stained with Silver stain.



(SDS-PAGE 21%, red.)

EGF-induced phosphorylation of EGFR in the A431 tumor cell line (Soler et al, J Chromatography B, 788,113, 2003).



(SDS-PAGE 10%, WB with α -pEGFR)