

Recombinant Human EGF

Catalog Number: 568-EGF



OrganRegen, INC.

Creating Solutions for Organoid Cultures

DESCRIPTION

Background:

Epidermal growth factor (EGF) is a small, potent growth factor capable of inducing cell proliferation, differentiation, and survival. EGF is the founding member of the EGF family which are characterized by a shared structural motif, the EGF-like domain[1]. EGF is a high affinity ligand of the EGF receptor (ErbB). Four ErbB (HER) family receptor tyrosine kinases including EGFR/ErbB1, ErbB2, ErbB3 and ErbB4, mediate responses to EGF family members[2]. EGF binding induces dimerization of the EGF receptor resulting in activation of the protein tyrosine kinase signaling pathway. These receptors undergo a complex pattern of ligand-induced homo- or hetero-dimerization to transduce EGF family signals[3, 4]. Dimerization results in autophosphorylation of the receptor at specific tyrosine residues to create docking sites for a variety of signaling molecules[2]. Biological activities ascribed to EGF include epithelial development, angiogenesis, fibroblast proliferation, and colony formation of epidermal cells in culture.

Source:

E.coli

Protein Construction:

A DNA sequence encoding the amino acids (Asn971-Arg1021) of human EGF (Accession Number: P01133) was expressed.

Synonyms:

hEGF; HOMG4; beta-urogastrone; epidermal growth factor; pro-epidermal growth factor; URG; Urogastrone

SPECIFICATIONS

Purity:

≥ 98%, by SDS-PAGE visualized with quantitative densitometry by Coomassie® Blue Staining.

Biological Activity:

Measured in a cell proliferation assay using Balb/C 3T3 mouse embryonic fibroblast cells. The ED50 for this effect is typically 0.3-1.5 ng/mL.

Endotoxin Level:

<0.01 EU per 1 µg of the protein by the LAL method

Calculated Molecular Weight:

5.95 kDa

SDS-PAGE:

8 kDa, reducing conditions

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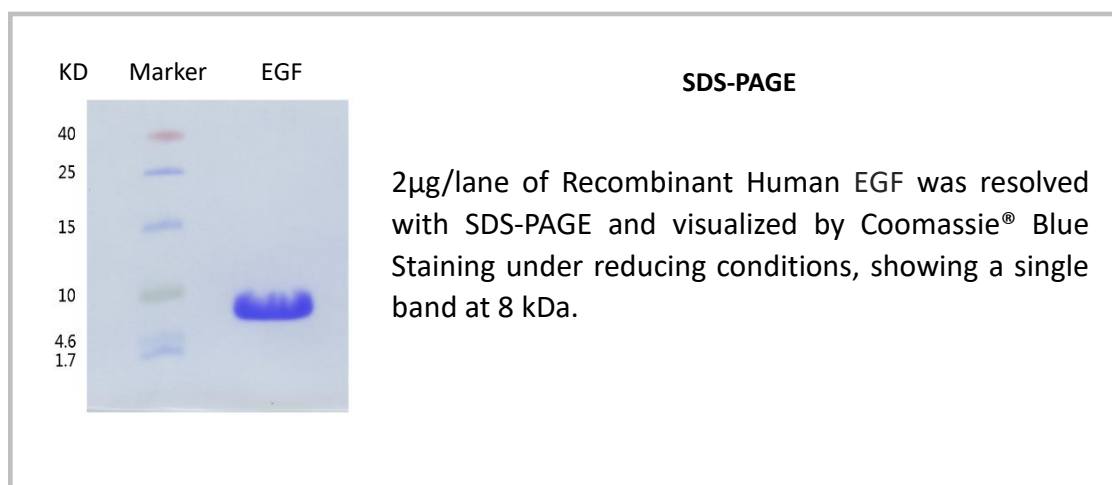
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DATA



FORMULATION AND STORAGE

Formulation:

The product is Lyophilized from a 0.22 µm filtered solution in PBS.

Shipping:

The product is shipped on ice. Upon receipt, store it immediately as methods recommended below.

Reconstitution:

Reconstitute in sterile PBS buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/mL.

Stability & Storage:

24 months, -20 to -70 °C, under powder state;

12 months, -20 to -70 °C, under sterile conditions after reconstitution;

2 month, 2 to 8 °C under sterile conditions after reconstitution;

avoid repeated freeze-thaw cycles.

References:

1. Carpenter, G., et al., Epidermal growth factor. *Biol Chem*, 1990. **265**(14): p. 7709-12.
2. Jorissen, R.N., et al., Epidermal growth factor receptor: mechanisms of activation and signalling. *Exp Cell Res*, 2003. **284**(1): p. 31-53.
3. Gamett, D.C., et al., Secondary dimerization between members of the epidermal growth factor receptor family. *J. Biol. Chem*, 1997. **272**: p. 12052.
4. Qian, X., et al., 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. **91**(4): p. 1500-4.