

Human Recombinant EGF

Epidermal growth factor

Catalog #78006.1	100 µg
Catalog #78006	500 µg
Catalog #78006.2	1000 µg

Product Description

Epidermal growth factor (EGF) is characterized by high-affinity binding to various EGF receptors (EGFRs) and the production of mitogenic responses (Carpenter & Cohen). EGF promotes EGFR dimerization, resulting in activation of downstream pathways including PI3K, ERK1/2, JAK/STAT, β -catenin, and calcium signaling. EGF is secreted by the gut-associated salivary and Brunner's glands. It is found in a variety of body fluids and stimulates cell proliferation and differentiation in rodent and neonatal human intestine (Wright et al.). Central nervous system stem cells also proliferate in response to the EGF stimulus (Reynolds & Weiss).

Product Information

Alternative Names:	Beta-urogastrone, Epidermal growth factor, HOMG4, Pro-epidermal growth factor, URG, Urogastrone
Accession Number:	P01133
Amino Acid Sequence:	MNSDSECPLS HDGYCLHDGV CMYIEALDKY ACNCVVG YIG ERCQYRDLKW WELR
Predicted Molecular Mass:	6.2 kDa
Species:	Human
Product Formulation:	Lyophilized after dialysis against phosphate buffer containing sodium chloride, pH 7.
Source:	E. coli
Purity:	≥ 95%

Specifications

Activity:	The specific activity is $\geq 5 \times 10^6$ units/mg ($EC_{50} \leq 0.2$ ng/mL) as determined by a cell proliferation assay of BALB/c 3T3 cells.
Endotoxin Level:	Measured by kinetic Limulus amoebocyte lysate (LAL) analysis and is ≤ 0.2 EU/µg protein.

Preparation and Storage

Stability and Storage:

Store at -80°C. Stable as supplied for 12 months from date of receipt.

Preparation:

Centrifuge vial before opening. Reconstitute the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex.

OPTIONAL: After reconstitution, if product will not be used immediately, dilute with concentrated bovine serum albumin (BSA) to a final BSA concentration of 0.1%. The effect of storage of stock solution on product performance should be tested for each application. Store at 2 - 8°C for up to 1 month or at -20 to -80°C for up to 6 months. Avoid repeated freeze-thaw cycles.

Data

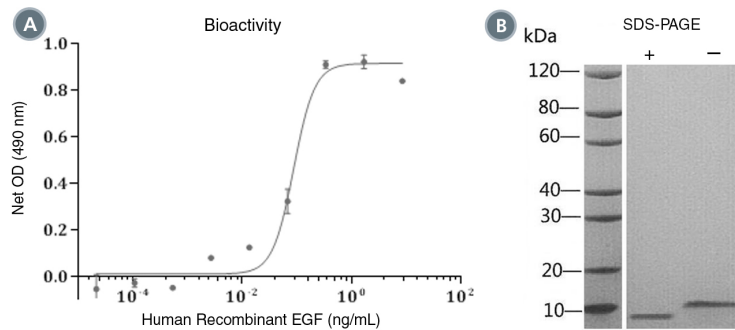


Figure 1. Biological Activity of Human Recombinant EGF

(A) Biological activity of Human Recombinant EGF was tested by its ability to promote the proliferation of BALB/c 3T3 cells. The EC50 is defined as the effective concentration of the growth factor at which cell proliferation is at 50% of maximum. The EC50 in the above example is 0.1 ng/mL. (B) 2 µg of Human Recombinant EGF was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant EGF has a predicted molecular mass of 6.2 kDa.

Related Products

For a complete list of cytokines or peptide pools, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

References

- Carpenter G & Cohen S. (1990) Epidermal growth factor. *J Biol Chem* 265(14): 7709-12.
- Reynolds BA & Weiss S. (1996) Clonal and population analyses demonstrate that an EGF-responsive mammalian embryonic CNS precursor is a stem cell. *Dev Biol* 175(1): 1-13.
- Wright NA et al. (1990) Induction of a novel epidermal growth factor-secreting cell lineage by mucosal ulceration in human gastrointestinal stem cells. *Nature* 343(6253): 82-5.

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