

Cytokines

Human Recombinant EGF



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Epidermal growth factor

Catalog #	78006.1	100 µg
	78006	500 µg
	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, 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, HOMG4, Epidermal growth factor, 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
Cross Reactivity:	Mouse, Rat, Monkey
Formulation:	Lyophilized after dialysis against phosphate buffer containing sodium chloride, pH 7.0.
Source:	E. coli

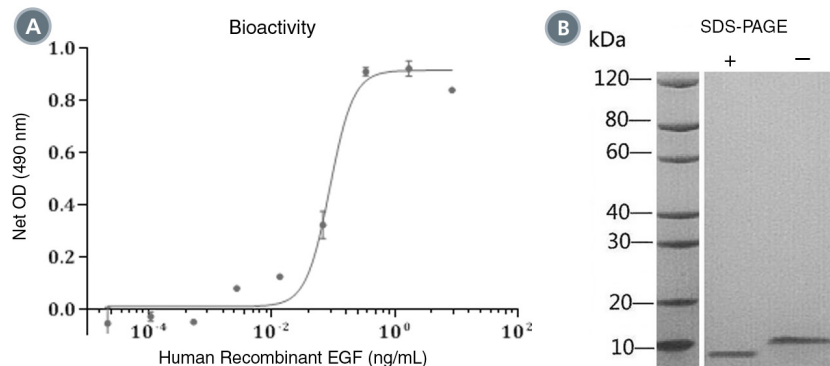
Specifications

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.
Purity:	$\geq 95\%$
Endotoxin Level:	Measured by kinetic Limulus amoebocyte lysate (LAL) analysis and is ≤ 0.2 EU/ μ g protein.

Preparation and Storage

Storage:	Store at -80°C .
Stability:	Stable as supplied for 12 months from date of receipt.
Preparation:	Centrifuge vial before opening. Reconstitute product in sterile 18 megohm-cm water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. Store at $2 - 8^{\circ}\text{C}$ for up to 1 month or at -20°C to -80°C for up to 6 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Human Recombinant EGF was tested by its ability to promote the proliferation of BALB/c 3T3 cells. Cell proliferation was measured using a fluorometric assay method. 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, 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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