

Cytokines

Mouse Recombinant EGF



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Epidermal growth factor

Catalog #	78016	10 µg
	78016.1	50 µg

Product Description

Epidermal growth factor (EGF) is the founding member of the EGF family of proteins and 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.). EGF can stimulate the proliferation of mouse embryonic stem cells or induce the terminal differentiation/growth inhibition of A431 cells (Heo et al.).

Product Information

Alternative Names:	Beta-urogastrone, HOMG4, Pro-epidermal growth factor, Pro-epidermal growth factor precursor, URG, Urogastrone
Accession Number:	P01132
Amino Acid Sequence:	MNSYPGCPSS YDGYCLNGGV CMHIESLDSY TCNCVIGYSG DRCQTRDLRW WELR
Predicted Molecular Mass:	6.2 kDa
Species:	Mouse
Cross Reactivity:	Human, Rat
Formulation:	Lyophilized after dialysis against phosphate-buffered saline.
Source:	E. coli

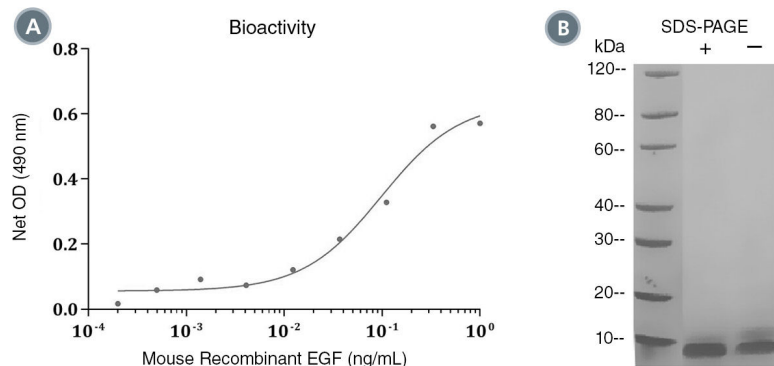
Specifications

Activity:	The specific activity is $\geq 1 \times 10^7$ units/mg ($EC_{50} \leq 0.1$ ng/mL) as determined by a cell proliferation assay of BALB/c 3T3 cells.
Purity:	≥ 95 %
Endotoxin Level:	Measured by kinetic limulus amebocyte lysate (LAL) analysis and is ≤ 0.2 EU/µg 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. Resuspend 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. Store at 2 - 8°C for up to 2 weeks or at -20°C to -80°C for up to 3 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Mouse 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 example above is less than 0.1 ng/mL.

(B) 5 µg of Mouse Recombinant EGF was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Mouse Recombinant EGF has a predicted molecular mass of 6.2 kDa.

Related Products

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References

- Carpenter G & Cohen S. (1990) Epidermal growth factor. *J Biol Chem* 265(14): 7709–12.
- Heo JS et al. (2006) EGF stimulates proliferation of mouse embryonic stem cells: involvement of Ca²⁺ influx and p44/42 MAPKs. *Am J Physiol Cell Physiol* 290(1): C123–33.
- 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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