

Cytokines

Rat Recombinant EGF



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Catalog # 78107
78107.1

20 µg
100 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.). 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, Pro-epidermal growth factor precursor, URG, Urogastrone

Accession Number: P07522

Amino Acid Sequence: MNSNTGCPPS YDGYCLNGGV CMYVESVDYR VCNCVIGYIG ERCQHRDLRW WKLR

Predicted Molecular Mass: 6.3 kDa

Species: Rat

Cross Reactivity: Mouse

Formulation: Lyophilized after dialysis against phosphate-buffered saline.

Source: E. coli

Specifications

Activity: The specific activity is $\geq 1.25 \times 10^7$ units/mg ($EC_{50} \leq 0.08$ ng/mL) as determined by a cell proliferation assay using 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.

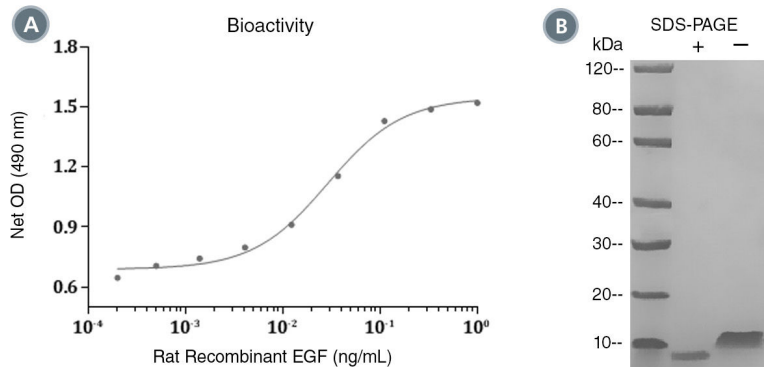
Preparation and Storage

Storage: Store at -80°C .

Stability: Stable as supplied for 12 months from date of receipt.

Preparation: Centrifuge vial before opening. Reconstitute 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. As a general guide, do not store at $2 - 8^{\circ}\text{C}$ for more than 2 weeks or at -20°C for more than 3 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Rat 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 less than 0.08 ng/mL.

(B) 2 μ g of Rat Recombinant EGF was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Rat Recombinant EGF has a predicted molecular mass of 6.3 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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