

# Cytokines

## Human Recombinant EGF, ACF



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Epidermal growth factor, animal component-free

Catalog #	78136	100 µg
	78136.1	500 µg
	78136.2	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,  $\beta$ -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). This product is animal component-free.

## Product Information

Alternative Names:	Beta-urogastrone, Epidermal growth factor, HOMG4, Pro-epidermal growth factor, URG, Urogastrone
Accession Number:	P01133
Amino Acid Sequence:	NSDSECPLSH DGYCLHDGVC MYIEALDKYA CNCVVG YIGE RCQYRDLKWW ELR
Predicted Molecular Mass:	6.2 kDa
Species:	Human
Cross Reactivity:	Mouse, Rat, Monkey
Formulation:	Lyophilized from a sterile-filtered aqueous solution containing 0.1% trifluoroacetic acid
Source:	E. coli

## Specifications

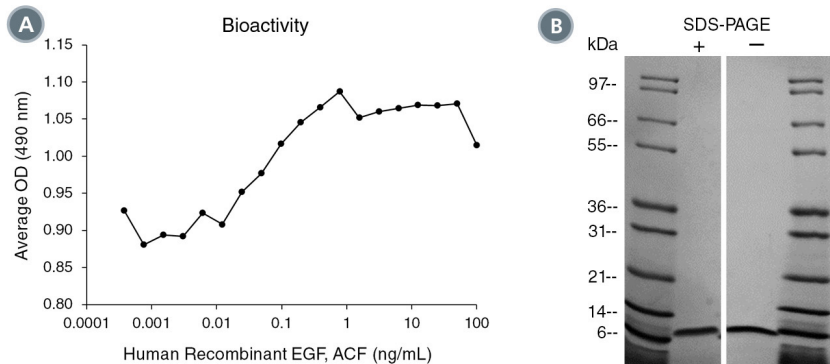
Activity:	The specific activity is $\geq 1.0 \times 10^7$ units/mg ( $EC_{50} \leq 0.1$ ng/mL) as determined by a cell proliferation assay using BALB/c 3T3 cells.
Purity:	$\geq 95\%$
Endotoxin Level:	Measured by kinetic Limulus amoebocyte lysate (LAL) analysis and is $\leq 1$ EU/ $\mu$ g protein.

## Preparation and Storage

Storage:	Store at -20°C to -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.

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. As a general guide, do not store at 2 - 8°C for more than 1 month or at -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.

## Data



(A) The biological activity of Human Recombinant EGF, ACF was tested by its ability to promote the proliferation of BALB/c 3T3 cells. Cell proliferation was measured using a fluorometric assay method. The EC<sub>50</sub> is defined as the effective concentration of the growth factor at which cell proliferation is at 50% of maximum. The EC<sub>50</sub> in the example above is 0.0459 ng/mL.

(B) 1 µg of Human Recombinant EGF, ACF was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant EGF, ACF has a predicted molecular mass of 6.2 kDa.

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## 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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