Canvax Reagents, S.L.U.
Luis de Mercado Street, 19
Boecillo Technological Park
47151, Boecillo
Valladolid, Spain.

Tlf: +34 983 54 85 63
info@canvaxbiotech.com

www.canvaxbiotech.com

DATA SHEET

Version: 01
Revision date: 23/05/2025

1. Identification

Product name **Recombinant Human EGF (53 aa)**
100 µg

Cat. No CR009

2. Description

Canvax Recombinant Human EGF (53 aa) is a high-purity, carrier-free growth factor produced in *E. coli* and designed to deliver robust and reproducible activity across epithelial, neural and mesenchymal culture systems. Corresponding to the mature 53-aa human EGF domain, this protein supports the expansion and differentiation of ESC/iPSC-derived epithelial lineages, primary cells and a broad range of organoid models including intestinal, gastric, hepatic, pancreatic, brain and tumor organoids.

Its animal-origin–free composition, chemically defined formulation and stringent endotoxin control ensure consistent biological performance in sensitive culture systems. Delivered as a stable lyophilized powder, the protein enables easy handling, high reconstitution recovery and reliable lot-to-lot consistency, making it suitable for demanding research workflows.

A solution of 10 mM HCl is included to reconstitute it.

A GMP-grade version suitable for therapeutic and regulated manufacturing environments is available upon request

3. Composition

Item	Quantity
Recombinant Human EGF	100 µg
Reconstituton Solution *	1 mL

*Use this solution of 10 mM HCl to reconstitute EGF at >50 µg/ml. Divide into single-use aliquots and store at –20 ˚C (short term) or –80 ˚C (long term).

4. Product information

Expression system *E. coli* recombinant production.

Sequence Human EGF (53 aa), corresponding to residues 971–1023 (UniProt P01133).

Molecular Weight 6.3 kDa (monomer). Migration at ~9–12 kDa under reducing/non-reducing SDS-PAGE reflects disulfide-dependent folding.

Structure Monomeric growth factor stabilized by three intramolecular disulfide bonds.

Purity ≥ 98% (SDS-PAGE).

Identity Confirmed by mass spectrometry.

Endotoxin <0.05 EU/µg protein.

Bioactivity Validated in HEK293 cells using a luciferase reporter assay.

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Form	Lyophilized powder.
Formulation	Lyophilized from acetonitrile and TFA
Reconstitution	Dissolve in 10 mM HCl at >50 µg/mL
Recovery	>95% after reconstitution.
Lot-to-lot consistency	Ensured through controlled manufacturing and analytical release testing.

5. Storage specifications

Store the lyophilized protein at –20 ˚C for general use. Avoid repeated freeze–thaw cycles. Once reconstituted, aliquot and store at –80 ˚C.

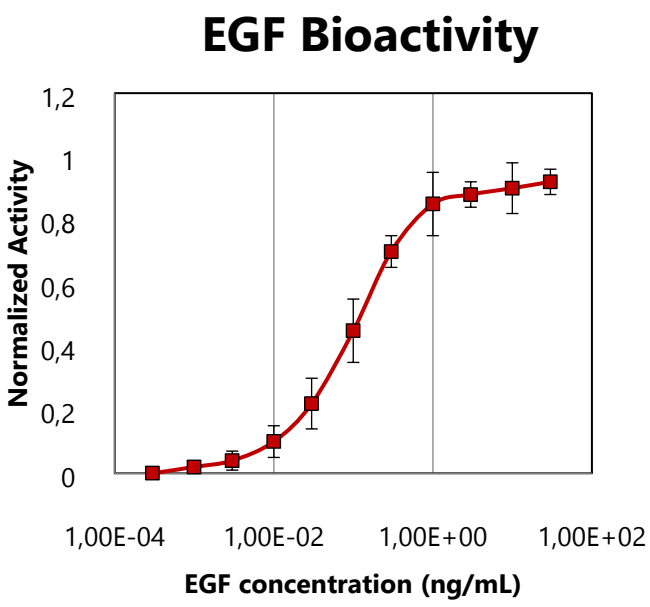
6. Applications

- Organoid culture: intestine, stomach, liver, pancreas, brain and tumor organoids.
- Expansion and differentiation of ESC/iPSC-derived epithelial and neural lineages.
- Proliferation of fibroblasts, chondrocytes and primary cells.
- Media supplementation in niche-factor cocktails (EGF, R-Spondin, Noggin/Gremlin, Wnt3a, FGF-10).
- Regenerative biology, angiogenesis and wound-healing models

A GMP-grade variant is also available for cell-therapy, regenerative-medicine and advanced therapeutic manufacturing workflows.

7. Bioactivity assay

EGF activity was determined using an SRE-luciferase reporter assay in transfected HEK293T cells. Cells were treated in triplicate with a serial dilution of recombinant EGF for 3 hours. Firefly luciferase activity was measured and normalized to control Renilla luciferase activity.
EC50 ≈ 70 pg/mL



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8. Further information

RUO This product is sold as RUO (Research Use Only), not for diagnostic or therapeutic use in humans or animals. GMP-grade production can be provided on request. Full regulatory documentation is available for GMP-manufactured batches. Contact us (info@canvaxbiotech.com).

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