

**Synonym**

EGF, URG, HOMG4

Source

Human EGF Protein, His Tag(EGF-H52H3) is expressed from human 293 cells (HEK293). It contains AA Asn 971 - Arg 1023 (Accession # [P01133-1](#)).

Molecular Characterization

Poly-his	EGF(Asn 971 - Arg 1023) P01133-1
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This protein carries a polyhistidine tag at the N-terminus.

The protein has a calculated MW of 8.3 kDa. The protein migrates as 10-11 kDa when calibrated against [Star Ribbon Pre-stained Protein Marker](#) under reducing (R) condition (SDS-PAGE) due to glycosylation.

Endotoxin

Less than 0.1 EU per μ g by the LAL method / rFC method.

Sterility

Negative

Mycoplasma

Negative

Purity

>95% as determined by SDS-PAGE.

Formulation

Lyophilized from 0.22 μ m filtered solution in PBS, pH7.4 with trehalose as protectant.

Contact us for customized product form or formulation.

Reconstitution

Please see Certificate of Analysis for specific instructions.

For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.

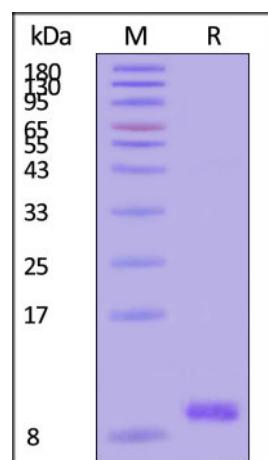
Storage

For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE

Human EGF Protein, His Tag on SDS-PAGE under reducing (R) condition.

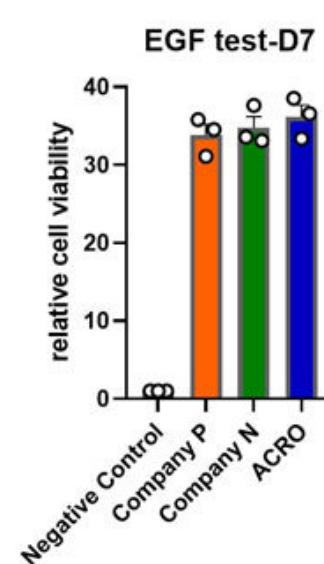
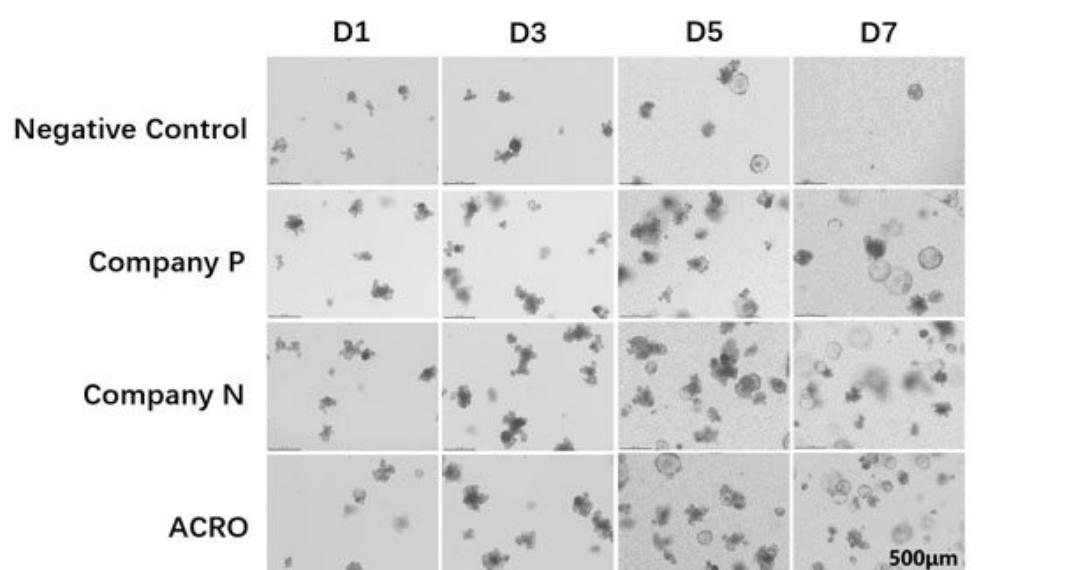
The gel was stained with Coomassie Blue. The purity of the protein is greater than 95% (With [Star Ribbon Pre-stained Protein Marker](#)).

Bioactivity-Organoid Culture

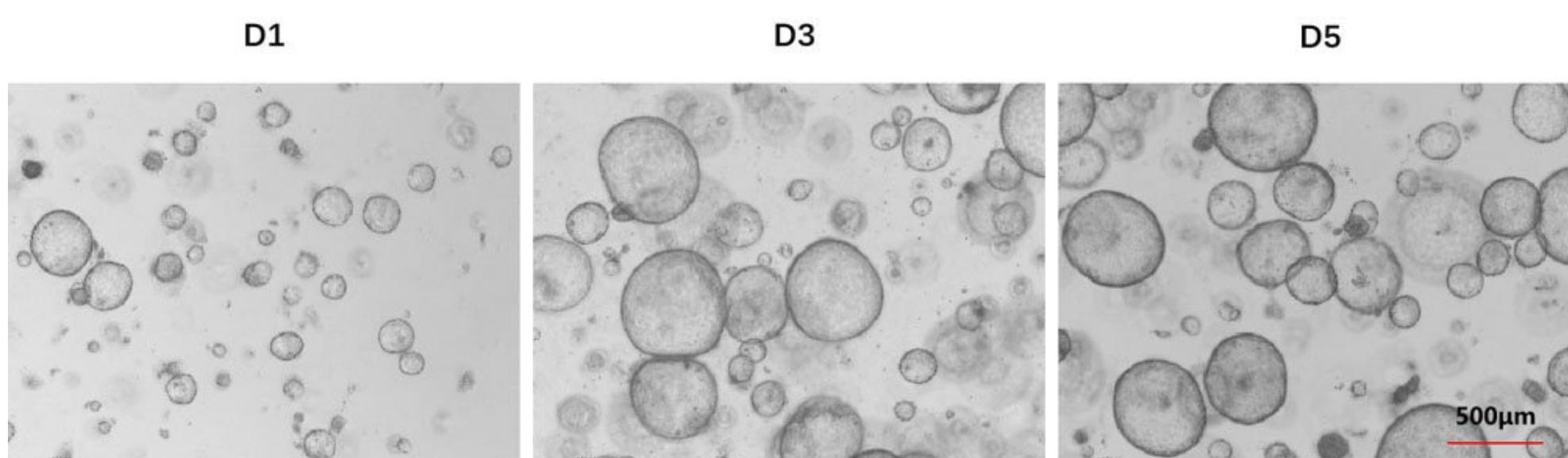
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EGF (Cat. No. EGF-H52H3) maintains intestinal organoid growth well through multiple passages and long-term culture, comparable to competing companies. The organoids showed good budding morphology.

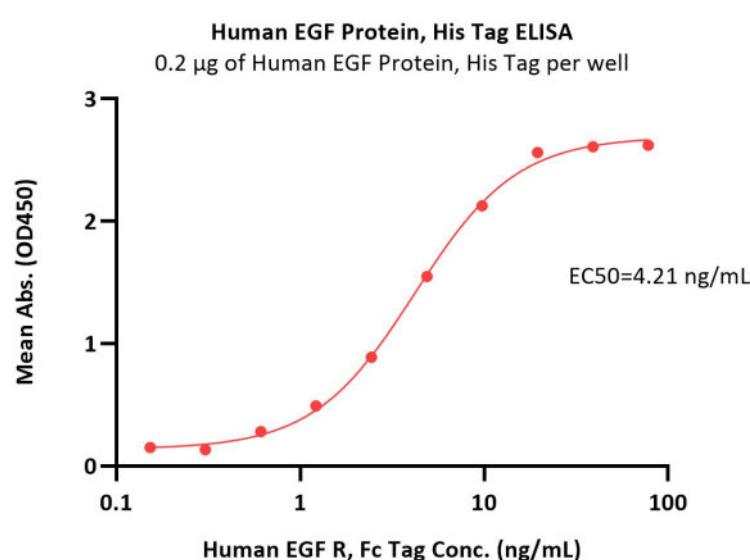


Human EGF (Cat. No. EGF-H52H3), Noggin (Cat. No. NON-H5257), R-spondin1 (Cat. No. RS6-H4220), FGF7 (Cat. No. FG7-H52H5), FGF10, HGF (Cat. No. HGF-H52H3) actively support liver ductal organoid growth.

EGF ORGANOID CULTURE

iPSC derived intestinal organoids forming cryptic structure were cultured with Human EGF (Cat. No. EGF-H52H3).

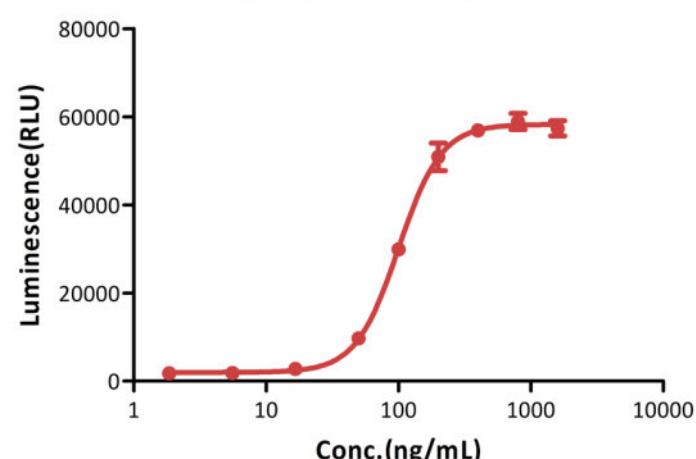
Bioactivity-ELISA



Immobilized Human EGF Protein, His Tag (Cat. No. EGF-H52H3) at 2 μg/mL (100 μL/well) can bind Human EGF R, Fc Tag (Cat. No. EGR-H5252) with a linear range of 0.2-5 ng/mL (QC tested).

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**Bioactivity-CELL BASE****Human EGF Protein, His Tag stimulates proliferation of EGFR (Luc) HEK293 Reporter Cell**

Human EGF Protein, His Tag (Cat. No. EGF-H52H3) stimulates EGFR (Luc) HEK293 Reporter Cell. The specific activity of Human EGF Protein, His Tag is $> 3.00 \times 10^5$ IU/mg, which is calibrated against human growth factor EGF WHO International Standard (NIBSC code: 91/530) (QC tested).

Background

Human epidermal growth factor (EGF) is also known as HOMG4 and URG, and is a growth factor that plays an important role in the regulation of cell growth, proliferation, and differentiation by binding to its receptor EGFR. Epidermal growth factor can be found in human platelets, macrophages, urine, saliva, milk, and plasma. EGF is the founding member of the EGF-family of proteins. Members of this protein family have highly similar structural and functional characteristics. All family members contain one or more repeats of the conserved amino acid sequence. The biological effects of salivary EGF include healing of oral and gastroesophageal ulcers, inhibition of gastric acid secretion, stimulation of D synthesis as well as mucosal protection from intraluminal injurious factors such as gastric acid, bile acids, pepsin, and trypsin and to physical, chemical and bacterial agents. Because of the increased risk of cancer by EGF, inhibiting it decreases cancer risk.

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