Mouse EGF / Epidermal Growth Factor Protein

Catalog Number: 50482-MNCH

Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

AI790464

Protein Construction:

A DNA sequence encoding the mouse EGF (P01132) (Asn977-Arg1029) was expressed and purified with two additional amino acids (Gly & Pro) at the N-terminus.

Source: Mouse

Expression Host: HEK293 Cells

QC Testing

Purity: > 95 % as determined by SDS-PAGE

Endotoxin:

< 1.0 EU per μg of the protein as determined by the LAL method

Predicted N terminal: Gly

Molecular Mass:

The recombinant mouse EGF consists of 55 amino acids and predicts a molecular mass of 6.2 KDa. It migrates as an approximately 14 KDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile PBS, pH 7.4.

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Stability & Storage:
Samples are stable for twelve months from date of receipt at -20℃ to -80℃.

Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

Bio Activity:

1.Measured in a cell proliferation assay using Balb/3T3 mouse embryonic fibroblast cells. The ED50 for this effect is typically 0.1-0.6 ng/mL.
2.Human intestinal cancer organoids were cultured with RSPO1(Cat#11083-HNAS), EGF(Cat#50482-MNCH), NOG(Cat#50688-M02H). (Routinely tested). Data provided by D1 Medical Technology.
3.Human colorectum organoids were cultured with RSPO1(Cat#11083-HNAS), EGF(Cat#50482-MNCH), NOG(Cat#50688-M02H). (Routinely tested). Data provided by D1 Medical Technology.
4.Human lung cancer organoids were cultured with FGF2(Cat#10014-HNAE), FGF4(Cat#16043-HNAE), FGF7(Cat#10210-H07E), EGF(Cat#50482-MNCH), FGF10(Cat#10573-HNAE), NOG(Cat#50688-M02H), RSPO1(Cat#11083-HNAS). (Routinely tested). Data provided by D1 Medical Technology.
5.Human lung organoids were cultured with FGF2(Cat#10014-HNAE), FGF4(Cat#16043-HNAE), FGF7(Cat#10210-H07E), EGF(Cat#50482-MNCH), FGF10(Cat#10573-HNAE), NOG(Cat#50688-M02H), RSPO1(Cat#11083-HNAS). (Routinely tested). Data provided by D1 Medical Technology.
6.Human cholangiocarcinomas organoids were cultured with FGF2(Cat#10014-HNAE), HGF(Cat#10463-HNAS), FGF7(Cat#10210-H07E), EGF(Cat#50482-MNCH), FGF10(Cat#10573-HNAE), NOG(Cat#50688-M02H), RSPO1(Cat#11083-HNAS). (Routinely tested). Data provided by D1 Medical Technology.
7.Human liver cancer organoids were cultured with FGF2(Cat#10014-HNAE), HGF(Cat#10463-HNAS), FGF7(Cat#10210-H07E), EGF(Cat#50482-MNCH), FGF10(Cat#10573-HNAE), TGFB1(Cat#10804-HNAC), NOG(Cat#50688-M02H), RSPO1(Cat#11083-HNAS). (Routinely tested). Data provided by D1 Medical Technology.
8.Human kidney cancer organoids were cultured with FGF2(Cat#10014-HNAE), FGF7(Cat#10210-H07E), EGF(Cat#50482-MNCH), FGF10(Cat#10573-HNAE), NOG(Cat#50688-M02H), RSPO1(Cat#11083-HNAS). (Routinely tested). Data provided by D1 Medical Technology.
9.Human kidney organoids were cultured with FGF7(Cat#10210-H07E), EGF(Cat#50482-MNCH), FGF10(Cat#10573-HNAE), NOG(Cat#50688-M02H), RSPO1(Cat#11083-HNAS), HGF(Cat#10463-HNAS), FGF4(Cat#16043-HNAE). (Routinely tested). Data provided by D1 Medical Technology.
10.Human gastric cancer organoids were cultured with EGF(Cat#50482-MNCH), FGF10(Cat#10573-HNAE), NOG(Cat#50688-M02H), RSPO1(Cat#11083-HNAS). (Routinely tested). Data provided by D1 Medical Technology.
11.Human stomach organoids organoids were cultured with EGF(Cat#50482-MNCH), FGF10(Cat#10573-HNAE), NOG(Cat#50688-M02H), RSPO1(Cat#11083-HNAS). (Routinely tested). Data provided by D1 Medical Technology.
12.Human breast cancer organoids were cultured with FGF7(Cat#10210-H07E), RSPO1(Cat#11083-HNAS), IGF1(Cat#10598-HNAE), EGF(Cat#50482-MNCH), NRG1 Beta 1(Cat#11609-H01H), NOG(Cat#50688-M02H). (Routinely tested). Data provided by D1 Medical Technology.
13.Human ovarian organoids were cultured with IGF1(Cat#10598-HNAE), NRG1 Beta 1(Cat#11609-H01H), RSPO1(Cat#11083-HNAS), EGF(Cat#50482-MNCH), NOG(Cat#50688-M02H). (Routinely tested). Data provided by D1 Medical Technology.
14.Human small intestinal organoids were cultured with IL22(Cat#13059-HNAE), FGF10(Cat#10573-HNAE), EGF(Cat#50482-MNCH), NOG(Cat#50688-M02H). (Routinely tested). Data provided by D1 Medical Technology.

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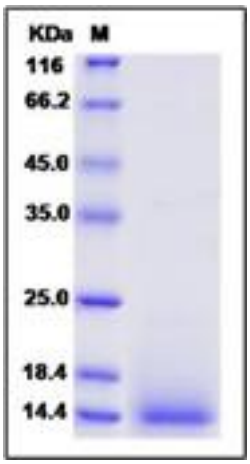
SDS-PAGE:



Protein Description

EGF is the founding member of the EGF-family of proteins. Members of this protein family have highly similar structural and functional characteristics. EGF contains 9 EGF-like domains and 9 LDL-receptor class B repeats. Human EGF is a 645-Da protein with 53 amino acid residues and three intramolecular disulfide bonds. As a low-molecular-weight polypeptide, EGF was first purified from the mouse submandibular gland, but since then it was found in many human tissues including submandibular gland, parotid gland. It can also be found in human platelets, macrophages, urine, saliva, milk, and plasma. EGF is a growth factor that stimulates the growth of various epidermal and epithelial tissues in vivo and in vitro and of some fibroblasts in cell culture. It results in cellular proliferation, differentiation, and survival. Salivary EGF, which seems also regulated by dietary inorganic iodine, also plays an important physiological role in the maintenance of oro-esophageal and gastric tissue integrity. EGF acts by binding with high affinity to epidermal growth factor receptor on the cell surface and stimulating the intrinsic protein-tyrosine kinase activity of the receptor. The tyrosine kinase activity, in turn, initiates a signal transduction cascade that results in a variety of biochemical changes within the cell - a rise in intracellular calcium levels, increased glycolysis and protein synthesis, and increases in the expression of certain genes including the gene for EGFR - that ultimately lead to DNA synthesis and cell proliferation.

References

1.Chen JX, et al. (2011) Involvement of c-Src/STAT3 signal in EGF-induced proliferation of rat spermatogonial stem cells. Mol Cell Biochem. 358(1-2):67-73.
2.Guo Y, et al. (2012) Correlations among ERCC1, XPB, UBE2I, EGF, TAL2 and ILF3 revealed by gene signatures of histological subtypes of patients with epithelial ovarian cancer. Oncol Rep. 27(1):286-92.
3.Kim S, et al. (2012) Smad7 acts as a negative regulator of the epidermal growth factor (EGF) signaling pathway in breast cancer cells. Cancer Lett. 314(2):147-54.