

# Human Recombinant Epidermal Growth Factor

Cell Culture Tested

**Product Code: CF023**

## Product Description:

Source: *E.coli*

Molecular Weight: ~6 kDa

Synonyms: EGF, Urogastrone, URG

### Amino Acid Sequence:

970 980 990	1000 1010 1020	REDDHHYSVR
NSDSECPLSH	DGYCLHDGVC	MYIEALDKYA
CNCVVGYYIGE	RCQYRDLKWW	1030 1040 1050
1060 1070 1080	ELR HAGHGQQ	QKVIVVAVCV
VVLVMLLLS	LWGAHYRTQ	KLLSKNPKNP
YEESRDVRS	1090 1100 1110	1120 1130 1140
RRPADTEDGM	SSCPQWFVV	IKEHQDLKNG
GQPVAGEDGQ	AADGSMQPTS	WRQEPQLCGM
1150 1160 1170	1180 1190 1200	GTEQGCWIPV
SSDKGSCPQV	MERSFHMPsy	GTQTLEGGVE
KPHSLLSANP	LWQQRALDPP	HQMELTQ

Epidermal Growth Factor (EGF) is a mitogenic protein belongs to EGF-family of protein. EGF stimulates growth and proliferation of various epidermal and epithelial cells. EGF exerts its function by binding to EGFR and activating a several downstream pathway including PI3K, ERK1/2, JAK/STAT,  $\beta$ -catenin, and calcium signaling. EGF is also involved in wound healing and inhibition of gastric juice. EGF is synthesized by gut-associated salivary and Brunner's glands. It has been found to be stimulate cell proliferation and differentiation in stem cells, rodent and neonatal human intestine. EGF is generated by cleavage of signal sequence and propeptide. Human Recombinant Epidermal Growth Factor is a disulfide linked monomeric protein with 54 amino acids having a molecular weight of ~6 kDa.

CF023 is recombinant of human Epidermal Growth Factor expressed in *E. coli*, filtered through 0.2 micron filter and lyophilized from PBS, pH 7.2.

## Directions:

1. Centrifuge the vial prior to opening.  
*Note: Protein pellet may not be visible in the vial because protein is lyophilized without any carrier protein. As a result, small amount protein may get deposited on the inner walls of the vial during lyophilization in form of a thin and invisible film. aentrifugation causes deposition of any protein sticking to the cap or sides to settle at the vial bottom.*
2. Surface sterilize using 70% isopropyl alcohol and take it into laminar air flow cabinet.
3. Aseptically reconstitute the lyophilized powder in sterile cell culture grade water to NLT 0.1 mg/ml concentration.  
*Note: Do not vortex.*
4. Upon reconstitution, it can be stored in a buffer containing a carrier protein and store in working aliquots. Avoid repeated freeze-thaw cycles.

## Quality Control:

### Appearance

Lyophilized powder.

### Solubility

Soluble at NLT 0.1 mg/ml in cell culture grade water.

### Purity (by SDS-PAGE and HPLC analysis)

NLT 98%

### Endotoxin Content

Less than 1EU/ $\mu$ g

### Biological activity (Determined by its ability to stimulate proliferation of balb/c 3T3 cells)

ED<sub>50</sub>: NMT 0.5 ng/ml.

### Specific activity

NLT 2x10<sup>7</sup> units/mg

## Storage and Shelf Life:

Shelf life of Human Recombinant Epidermal Growth Factor depends on the storage temperature and the form in which it is stored. Refer the table given below for recommended storage time of different forms of Human recombinant Epidermal Growth Factor at different storage temperatures.

Product form	Temperature	Storage time
Lyophilized	-30 to -10°C	2 years
Reconstituted (with carrier protein)	2°C to 8°C	1 month
	-30 to -10°C	6 months

Once reconstituted, aliquot the solution into the smaller volumes and freeze for future use. Repeated freezing and thawing of the reconstituted frozen solution should be avoided as it causes denaturation of protein to some extent.

### Disclaimer :

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