Recombinant Human Epidermal Growth Factor (Pichia)

Certificate of Analysis and Data Sheet

Source:	Catalog No.
Pichia	CTK-332

Background:

A 6 kD polypeptide growth factor initially discovered in mouse submaxillary glands. Human epidermal growth factor was originally isolated from urine based on its ability to inhibit gastric secretion and called urogastrone. Epidermal Growth Factor exerts a wide variety of biological effects including the promotion of proliferation and differentiation of mesenchymal and epithelial cells.

Description :

Recombinant Human Epidermal Growth Factor produced in Pichia is a single, glycosylated polypeptide chain containing 51 amino acids and having a molecular mass of 6222 Dalton.
Recombinant EGF is purified by proprietary chromatographic techniques.

Physical Appearance:

Sterile Filtered White lyophilized (freeze-dried) powder.

Formulation:

Recombinant EGF was lyophilized from a concentrated (1mg/ml) solution containing 20mM Tris PH-7.5 and 150mM sodium chloride.

Solubility:

It is recommended to reconstitute the lyophilized EGF in sterile 18MΩ-cm H2O not less than 100µg/ml, which can then be further diluted to other aqueous solutions.

Stability:

Lyophilized EGF although stable at room temperature for 3 weeks, should be stored desiccated below -18 C. Upon reconstitution EGF should be stored at 4 C between 2-7 days and for future use below -18 C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please avoid freeze-thaw cycles.

Purity:

Greater than 98.0% as determined by:
(a) Analysis by RP-HPLC.
(b) Anion-exchange FPLC.
(c) Analysis by reducing and non-reducing SDS-PAGE Silver Stained gel.

Amino acid sequence:

The sequence of the first five N-terminal amino acids was determined and was found to be Asn-Ser-Asp-Ser-Glu, which agrees with the sequence of native human EGF. N-terminal methionine has been completely removed enzymatically.

Dimers and aggregates:

Less than 1% as determined by silver-stained SDS-PAGE gel analysis.

Biological Activity:

This recombinant Human Epidermal Growth Factor is fully biologically active when compared to standards. The ED50, calculated by the dose-dependant proliferation of murine BALB/c 3T3 cells (measured by 3H-thymidine uptake) is less then 0.1 ng/ml corresponding to a specific activity of 1×10^7 Units/mg.

Endotoxin:

Less than 0.1 ng/µg (IEU/µg) of recombinant EGF .

Protein content:

Protein quantitation was carried out by two independent methods:

1. UV spectroscopy at 280 nm using the absorbency value of 2.858 as the extinction coefficient for a 0.1% (1mg/ml) solution. This value is calculated by the PC GENE computer analysis program of protein sequences (IntelliGenetics).
2. Analysis by RP-HPLC, using a standard solution of human EGF as a Reference Standard.

Usage:

This material is offered for research, laboratory or further evaluation purposes.