



Epidermal Growth Factor (EGF), Murine, Natural

Cat. No.: 53003-018

Size: 100 µg
Store at -5°C to -20°C.

Form: Lyophilized

NOTE: Do not store in glass. Do not store in dilute solution. Do not freeze and thaw repeatedly after reconstitution.

Description:

This natural preparation of murine epidermal growth factor (EGF) was isolated from male mouse submaxillary glands. It is not sterile as provided.

Background:

Epidermal Growth Factor (EGF) is an acidic 6 kDa peptide (1) which stimulates the proliferation and keratinization of various epidermal tissues *in vivo* and *in vitro* (2).

EGF effects are mediated by a cell surface receptor with a molecular weight of 170 kDa. This receptor shows tyrosine-specific protein kinase activity (3). After examination of different strains of human fibroblasts, it has been estimated that there exist 40,000-100,000 binding sites per cell for EGF with apparent dissociation constants of $2-4 \times 10^{-10}$ M (4,5).

Human and mouse EGF are very similar, but not identical in their physical and chemical properties. Of the 53 amino acid residues comprising each of the two polypeptides, 37 are common to both molecules, and the 3 disulfide bonds are formed in the same relative positions (6).

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This product is distributed for laboratory research only. CAUTION: Not for diagnostic use. The safety and efficacy of this product in diagnostic or other clinical uses has not been established.

For technical questions about this product, call the Invitrogen Tech-LineSM U.S.A. 800 955 6288

Directions for Use:

EGF can be reconstituted in sterile deionized distilled water, buffer or culture media. Reconstituted EGF can be sterilized by membrane filtration through a 0.22-micron low protein binding filter. **NOTE: Some loss of protein can be expected.**

Reconstituted EGF should be aliquoted and stored in polypropylene vials and is stable at -5°C to -20°C for up to two months. Avoid repeated freezing and thawing. Stability of dilute solutions of EGF may be prolonged by addition of bovine serum albumin to a final concentration of 1.0%.

Quality Control:

Purity and Identity: >95% in a band at approximately 6 kDa by SDS-PAGE.

Functional Qualification: Cell proliferation using NRK-B cells was directly proportional to the amount of EGF added to serum-free medium.

References:

1. Taylor, J.M., Mitchell, W.M. and Cohen S. (1972) *J. Biol. Chem.* 247, 5928.
2. Cohen, S. (1964) *Nat. Cancer Inst. Monogr.* 13, 3.
3. Hunter, T. (1984) *Nature* 311, 414.
4. Hollenberg, M.D. and Cuatrecasas, P. (1975) *J. Biol. Chem.* 250, 13845.
5. Carpenter, G., Lembach, K.J., Morrison, M. and Cohen, S. (1975) *J. Biol. Chem.* 250, 4297.
6. Cohen, S. and Carpenter, G. (1975) *Proc. Natl. Acad. Sci. USA* 72, 1317.