

Recombinant Human Insulin Like Growth Factor Binding Protein-3 (IGFBP-3) Certificate of Analysis and Data Sheet

➤ Source: E.Coli	➤ Catalog No. CTK-300
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➤ **Background:**

Insulin Like Growth Factor Binding Protein-3 is one of the six homologous proteins that specifically bind insulin-like growth factors and modulate their mitogenic and metabolic actions. IGFBP-3 is the major IGF binding protein present in serum of humans and animals. It is also present in the alpha granules of platelets. IGFBP-3 shows a similar affinity for IGF-1 and IGF-2 . IGF-BP-3 inhibits follicle stimulating hormone . Markedly decreased levels of IGF-BP-3 are observed in patients with Growth hormone deficiencies, while markedly elevated levels are observed in patients with high levels of Growth hormone (acromegaly). In murine fibroblasts the synthesis of IGFBP-3 is stimulated by mitogenic growth factors such as Bombesin , Vasopressin , PDGF , and EGF . In human skin fibroblasts the synthesis of IGFBP-3 is stimulated by TGF-beta .

➤ **Description :**

Recombinant Human IGFBP-3 produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 264 amino acids and having a molecular mass of 28806 Dalton.
IGFBP-3 is purified by proprietary chromatographic techniques.

➤ **Physical Appearance:**

Sterile Filtered White lyophilized (freeze-dried) powder.

➤ **Formulation:**

IGFBP-3 was lyophilized with 20mM Tris HCL .

➤ **Solubility:**

It is recommended to reconstitute the lyophilized IGFBP-3 in sterile 18MΩ-cm H₂O not less than 100µg/ml, which can then be further diluted to other aqueous solutions.

➤ **Stability:**

Lyophilized IGFBP-3 although stable at room temperature for 3 weeks, should be stored desiccated below -18°C . Upon reconstitution IGFBP-3 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.

➤ **Purity:**

The sequence of the first five N-terminal amino acids was determined and was found to be Gly-Ala-Ser-Ser-Gly.

➤ **Dimers and aggregates:**

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

➤ **Biological Activity:**

IGFBP-3 is fully biologically active when compared to standards. The ED50, calculated by its ability to inhibit IGF-II induced proliferation of MCF-7 is less than $0.2\ \mu\text{g/ml}$ in the presence of $15\ \text{ng/ml}$ of Human IGF-II.

➤ **Endotoxin:**

Less than $0.1\ \text{ng}/\mu\text{g}$ (IEU/ μg) of IGFBP-3 .

➤ **Protein content:**

Protein quantitation was carried out by two independent methods:

1. UV spectroscopy at 280 nm.

2. Analysis by RP-HPLC, using a standard solution of IGFBP-3 as a Reference Standard.

➤ **Usage:**

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