

DESCRIPTION

Source *E. coli*-derived
Ala25-Glu91
Accession # P01344.1

N-terminal Sequence Analysis Ala25

Predicted Molecular Mass 7.5 kDa

SPECIFICATIONS

Activity Measured in a serum-free cell proliferation assay using MCF-7 human breast cancer cells. Karey, K.P. *et al.* (1988) Cancer Research 48:4083.
The ED₅₀ for this effect is typically 1.5–6 ng/mL.

Endotoxin Level <1.0 EU per 1 µg of the protein by the LAL method.

Purity >97%, by SDS-PAGE under reducing conditions and visualized by silver stain.

Formulation Lyophilized from a 0.2 µm filtered solution in Acetic Acid. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 100 µg/mL in sterile PBS.

Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage **Use a manual defrost freezer and avoid repeated freeze-thaw cycles.**

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Insulin-like growth factor I (also known as somatomedin C and somatomedin A) and insulin-like growth factor II (multiplication stimulating activity or MSA) belong to the family of insulin-like growth factors that are structurally homologous to proinsulin. Mature IGF-I and IGF-II share approximately 70% sequence identity. Both IGF-I and IGF-II are expressed in many tissues and cell types and may have autocrine, paracrine and endocrine functions. Mature IGF-I and IGF-II are highly conserved (100% identity between human, bovine and porcine proteins) and exhibit cross-species activity.

IGF-II is a potent mitogenic growth factor. However, unlike IGF-I which has important postnatal roles, the growth-promoting function of IGF-II is limited to embryonic development.

Two specific cell surface receptors that bind IGF-I and IGF-II have been identified. The type I IGF receptor that participates in IGF signaling is structurally related to the insulin receptor. It is a disulfide-linked heterotetrameric transmembrane glycoprotein with an intracellular tyrosine kinase domain. Type I IGF receptor binds IGF-I with higher affinity than IGF-II. The type II IGF receptor which binds IGF-II with much higher affinity than IGF-I is also the cation-independent mannose 6-phosphate receptor. At the present time, it is not known if the type II IGF receptor participates in the IGF signaling pathway. An additional unknown receptor which mediates IGF-II signaling has also been proposed. Circulating IGFs exist in complexes bound to IGF binding proteins. Currently, at least six high affinity binding proteins have been identified.