ProductInformation

INSULIN-LIKE GROWTH FACTOR-II ,(IGF-II)
Human, Recombinant
Expressed in *E. coli*

Product No. **I 2139**

Product Description

Insulin-like Growth Factor-II (IGF-II) was first isolated from human serum by Froesch et al.[1] as a factor displaying insulin-like activities that were not suppressed by antibodies to insulin. It had also been discovered that growth hormone-dependent factors in serum could stimulate the in corporation of ^{35}S into cartilage[2] and that calf serum factors induced cellular division in chick fibroblasts.[3] In 1972, the term "somatomedin" was introduced in an unsuccessful attempt to unify the nomenclature of these factors.[4] In 1987, a consensus among an international group of scientists endorsed the use of the terms insulin-like growth factors (IGF-I and IGF-II),[5] originally proposed by Rinderknecht and Humbel.[6] Hence, IGF-I and IGF-II have had several synomyms: nonsuppressible insulin-like activity (NSILA), sulfation factor activity (SFA), and multiplication stimulating activity (MSA). However, since IGF-II was not regulated by growth hormone, only IGF-I was known as a somatomedin.

Human IGF-II contains 67 amino acids and shares similar structural features with IGF-I, including a 62% sequence homology.[7] In human plasma IGF-I and IGF-II are associated with IGF-binding proteins,[8,9] which transport the polypeptides and partially regulate their actions *in vivo*.[10] In addition to the insulin receptor, IGF-II binds to two forms of IGF receptors, both of which are widely distributed in different tissues and cultured cells.[11] IGF-II is mitogenic for a variety of cultured cells, including mouse 3T3 cells,[12] normal rat kidney cells,[13] human or chicken fibroblasts,[14,15] and MCF-7 human breast carcinoma cells.[16]

Performance Characteristics

The mitogenic activity of IGF-II on a breast carcinoma cell line, MCF-7, has been tested in a serum-free assay system using a modification of the procedure of Karey and Sirbascu.[16] The EC_{50} is defined as the effective concentration of growth factor that elicits a 50% increase in cell growth in a cell based bioassay.

Product Information

Expressed in *E. coli*
Molecular Weight: 7.5 kD
Purity: ≥97% by HPLC
EC_{50}: 0.5 - 25 ng/ml
Package Size: 10 µg
Formulation: Lyophilized from deionized water.
Carrier Protein: None
Sterility: sterile filtered
Endotoxin: <1 EU/vial

Reconstitution and Use

Reconstitute the contents of the vial in 10 - 100 mM acetic acid to prepare a stock solution. This may be diluted immedicately before use in sterile medium of balanced salt solution containing 0.1% - 1.0% BSA or 1% - 10% serum.

Storage

Prior to reconstitution, store vial below 0 °C. After reconstitution, the product may be stored for two weeks at 2-8 °C or may be stored as aliquots at –20 °C. Prolonged storage and repeated freezing and thawing is **not** recommended.

References

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