

Product Information

Insulin-like Growth Factor-II, human recombinant, expressed in *E. coli*

Catalog Number **I2526**
Storage Temperature $-20\text{ }^{\circ}\text{C}$

Synonym: IGF-II

Product Description

Insulin-like Growth Factor-II (IGF-II) was first isolated from human serum as a factor displaying insulin-like activities that were not suppressed by antibodies to insulin.¹ It had been discovered that growth hormone-dependent factors in serum stimulate the incorporation of ^{35}S into cartilage² and 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 hormone-dependent 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 synonyms: nonsuppressible insulin-like activity (NSILA), sulfation factor activity (SFA), and multiplication stimulating activity (MSA). Because IGF-II was not regulated by growth hormone, only IGF-I was known as a somatomedin.

Human IGF-II is a 7.5 kDa protein containing 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} that 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,⁷ human or chicken fibroblasts,^{8,9} and MCF-7 human breast carcinoma cells.¹⁰

Insulin-like Growth Factor-II is lyophilized from a $0.2\text{ }\mu\text{m}$ filtered solution with no additives.

Purity: $\geq 97\%$ (SDS-PAGE)

EC₅₀: 1.5–6 ng/ml

The biological activity is measured in a serum-free cell proliferation assay using the human cell line MCF-7.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

Reconstitute the contents of the vial with sterile PBS. The rhIGF-II concentration in the stock solution should $\geq 100\text{ }\mu\text{g/ml}$.

Storage/Stability

Prior to reconstitution store the product at $-20\text{ }^{\circ}\text{C}$.

After reconstitution, freeze in working aliquots at $-20\text{ }^{\circ}\text{C}$ for no longer than 6 months. Prolonged storage and repeated freezing and thawing is not recommended.

References

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