

Product Information

Insulin-like Growth Factor-II Human

Recombinant, Expressed in *E. coli*, Suitable for cell culture**I2526**

Storage Temperature –20 °C

Synonym: IGF-II, Somatomedin A

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 ³⁵S 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: non-suppressible 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 monomer, 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 µm filtered solution containing 0.1% Trifluoroacetic Acid (TFA).

Purity: ≥ 95% (SDS-PAGE)

ED₅₀: 1.5-6 ng/mL

The biological activity is measured by a cell proliferation assay using Human breast cancer cell line MCF-7.

Preparation Instructions

Reconstitute the contents of the vial with sterile PBS. The rhIGF-II concentration in the stock solution should be ≥ 100 µg/mL.

Storage/Stability

Prior to reconstitution store the product at –20 °C.

After reconstitution, freeze in working aliquots at –20 °C for no longer than 6 months. Prolonged storage and repeated freezing and thawing is not recommended.

References

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