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Product Information

Anti-Insulin-Like Growth Factor-II
produced in goat, affinity isolated antibody

Catalog Number **I7276**

Synonym: Anti-IGF-II

Product Description
Anti-Insulin-Like Growth Factor-II is produced in goat using as immunogen recombinant human IGF-II, expressed in *Escherichia coli*. The antibody is purified using human IGF-II affinity chromatography.

Anti-Insulin-Like Growth Factor-II will neutralize the biological activity of recombinant human IGF-II. It does not neutralize the biological activity of recombinant human IGF-I. The antibody may also be used in immunoblotting and immunohistochemistry.

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 been discovered that growth hormone-dependent factors in serum stimulate the incorporation of 35S 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 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 synomyms: nonsuppressible insulin-like activity (NSIL-A), 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 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] 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,[13] human or chicken fibroblasts,[14,15] and MCF-7 human breast carcinoma cells.[16]

Reagent
Supplied lyophilized from a 0.2 µm filtered solution in phosphate buffered saline, pH 7.4, containing 5% trehalose.

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

Preparation Instructions
To one vial of lyophilized powder, add 1 ml of 0.2 µm-filtered PBS to produce a 0.25 mg/ml stock solution. If aseptic technique is used, no further filtration should be needed for use in cell culture environments.

Storage/Stability
Prior to reconstitution, store at –20 °C. Reconstituted product may be stored at 2-8 °C for up to one month. For prolonged storage, freeze in working aliquots at –20 °C. Avoid repeated freezing and thawing.

Product Profile
Neutralization**:** Anti-IGF-II is tested for its ability to neutralize the bioactivity of recombinant human IGF-II in a cell proliferation assay using MCF-7 cells.[17] In this assay, recombinant human IGF-II is preincubated with various dilutions of the antibody for 1 hour at 37 °C, then placed in a 96-well plate. MCF-7 cells are added to each well. The total volume of 100 µL, containing antibody, recombinant human IGF-II at 14 ng/ml, and cells at 5 x 10^4 cell/ml, is incubated for 72 hours at 37 °C in a 5% CO_2 humidified incubator and then pulsed for the last 24 hours with ^{3}H-thymidine. Cells are harvested onto glass filters and the ^{3}H-thymidine incorporation into the DNA is measured.

The ND_{50} of the antibody is defined as the concentration of antibody resulting in a one-half maximal inhibition of bioactivity of rhIGF-II that is present at a concentration just high enough to elicit a maximum response.

Immunoblotting: a working antibody concentration of 0.1 µg/ml detects human IGF-II. The detection limit for recombinant human IGF-II is 5 ng/lane under non-reducing and reducing conditions.

Immunohistochemistry: a working antibody concentration of 5-15 µg/ml is recommended using paraffin-embedded tissue sections (antigen retrieval).

Endotoxin: <0.1 EU/µg of the antibody as determined by the LAL method

References

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