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Product Information

Monoclonal Anti-Insulin-like Growth Factor-I
Clone 56408
produced in mouse, purified immunoglobulin

Catalog Number **I9909**

Product Description

Monoclonal Anti-Insulin-like Growth Factor-I (IGF1) (mouse IgG1 isotype) is purified from a hybridoma produced by the fusion of mouse myeloma cells and B cells from a mouse immunized with recombinant human Insulin-like Growth Factor-I (GeneID 3479) expressed and purified from *Escherichia coli*. The antibody is purified by Protein G affinity chromatography.

Monoclonal Anti-Insulin-like Growth Factor-I recognizes human Insulin-like Growth Factor-I. Applications include immunoblotting, and ELISA. In sandwich ELISAs, no cross-reactivity was observed with rmIGF-I, rmIGF-II, or rhIGF-II.

Insulin-like growth factor-I (also known as somatomedin C and somatomedin A) and insulin-like growth factor-II (IGF-II) belong to the family of insulin-like growth factors, which are structurally homologous to proinsulin. Mature IGF-I and IGF-II are highly conserved and share ~70% amino acid sequence identity. Mouse Igf1, a 70 amino acid protein cross-linked by three disulfide bridges, has a predicted molecular mass of ~7.6 kDa. Mouse and human IGF-I share 97% sequence identity.

Insulin-like growth factor-I has autocrine, paracrine, and endocrine functions. It mediates the growth-promoting activities of growth hormone postnatally and plays a role in embryonic growth and differentiation. IGF-I also controls cell proliferation and differentiation by regulating specific events in the G1 phase of cell cycle. IGF-I stimulates myoblast differentiation and myotubal formation, [1] and has insulin-like effects, such as stimulation of glucose consumption in adipose tissue. IGF-I exerts its actions through the IGF-I receptor. IGF-I and IGF-II are expressed in many tissues and cell types. IGF-I is mitogenic for a variety of cells including fibroblasts, osteoblasts, smooth muscle cells, fetal brain cells, neuroglial cells, and erythroid progenitor cells.[1]

Reagent

Supplied lyophilized from a 0.2 μm filtered solution of phosphate buffered saline with 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 0.5 mg/mL stock solution. If aseptic technique is used, no further filtration should be necessary 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 extended storage, freeze in working aliquots at –20 °C. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended.

Product Profile

Immunoblotting: a working concentration of 1-2 µg/mL is recommended to detect human IGF-1. Using a colorimetric detection system, the detection limit for recombinant mouse IGF1 is ~25 ng/lane under non-reducing conditions.

Capture ELISA: this product can be used as a capture reagent in a human IGF1 ELISA in combination with biotinylated, human IGF1 affinity purified polyclonal detection antibody. Using plates coated with 100 µL/well of the capture antibody at 2-8 µg/mL, in combination with 100 µL/well of the detection antibody, an ELISA for sample volumes of 100 µL can be obtained. To arrive at the optimal dose range for this ELISA, set up a two-fold dilution series of the protein standard starting with 2 ng/mL.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

1. Zumstein, P., et al., *J. Biol. Chem*., **262**, 11252 (1987).

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