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Product Information

Anti-IGF-I
produced in goat, affinity isolated antibody

Catalog Number **SAB3600001**

Product Description

Anti-IGF-I (Insulin-like Growth Factor-I) is produced in goat using *E. coli*-derived recombinant human insulin-like growth factor I (rhIGF-I) (GeneID 3479). The antibody is purified using IGF-I affinity chromatography.

Anti-IGF-I recognizes human insulin-like growth factor I. Applications include neutralization, immunoblotting, immunocytochemictry and immunohistochemistry.

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 post-natally 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 phosphate buffered saline to produce a 0.25 mg/mL stock solution of antibody. 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. The 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.

Neutralization

To measure the ability of the antibody to neutralize the bioactivity of recombinant human IGF-I on MCF-7 cells, rhIGF-I was incubated with various concentrations of antibody for 1 hour at 37° C in a 96 well microplate. Following this preincubation period, MCF-7 cells were added. The assay mixture, in a total volume of 100 µL/well, containing antibody at concentrations of 0.1-100 µg/mL, rhIGF-I at a concentration of 6 ng/mL, and cells at 5 x 10^4 cells/mL, was incubated for 96 hours at 37° C in a 5% CO_2 humidified incubator and pulsed with resazurin for the final 24 hours. The fluorescence was then read in a microplate plate reader set at 544/590 nm. The ND_{50} of the antibody is approximately 3-12 µg/mL.

The Neutralization $Dose_{50}$ (ND_{50}) for this antibody is defined as that concentration of antibody required to yield one-half maximal inhibition of the cytokine activity on a responsive cell line, when that cytokine is present at a concentration just high enough to elicit a maximum response.

Product Profile

Immunoblotting: a working antibody concentration of 0.1-0.2 µg/mL is recommended.

Immunocytochemistry: a working antibody concentration of 5-15 µg/mL is recommended

Immunohistochemistry: can be used to detect IGF-I in immersion fixed paraffin-embedded sections of human placenta.

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

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

References

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

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