ISOkine
PREMIUM GRADE GROWTH FACTORS AND CYTOKINES

Animal-Free | Endotoxin-Free | Carrier-Free

IGF-1 LR3, human, recombinant

Catalog Number: IK0300

DESCRIPTION
Insulin-like growth factor 1 (IGF-1) is a polypeptide growth factor that promotes cell proliferation and survival in tissues such as muscle, bone, and cartilage. It is mainly produced by the liver, though many tissues express it at specific times. IGF-1 is part of the insulin gene family and is structurally similar to insulin but has greater growth-promoting activity. IGF-1 LR3 is a recombinant analog of human IGF-1 with an arginine substitution at position 3 and a 13-amino-acid N-terminal extension, engineered for higher potency, longer half-life, and reduced binding to native proteins, making it useful for research and large-scale cell culture.

SOURCE
Produced in the endosperm tissue of barley grain (*Hordeum vulgare*). ISOkine® growth factors and cytokines are animal-free and serum-free and void of antibiotics, endotoxins, viruses, and prions.

FORMULATION
2xPBS pH 7.2, sterile filtered through 0.22 µm filter.

PURITY
≥95% by SDS-PAGE gel analysis.

SHELF LIFE
The lyophilized protein has a shelf life for 3 years when stored at < 20°C.

RECONSTITUTION
Always centrifuge the vial before opening. It is recommended to reconstitute the lyophilized protein in sterile buffered saline to a concentration of no less than 100 µg/ml. For long term storage of the reconstituted solution, it is recommended to add a carrier protein (0.1% HSA or BSA).

STABILITY
The lyophilized protein, though stable at room temperature for a few weeks, is best stored at -20°C. Reconstituted protein should be used immediately or stored in working aliquots at -20°C. Avoid repeated freeze-thaw cycles.

BIOLOGICAL ACTIVITY
Each batch of ISOkine® growth factors is tested for bioactivity and verified to have comparable activity to a commercial source. The bioactivity of ISOkine® recombinant human IGF-1 LR3 is assayed by measuring its dose-dependent effect on the proliferation of FDC-P1 cells. The ED50 for this effect using IGF-1 LR3 is typically <2.0 ng/ml. Optimal concentration should be determined for specific applications and cell lines.

ENDOTOXIN LEVEL
Endotoxin level is <0.0100 EU/µg of ISOkine® product by LAL method.

MAT ASSAY
Purified ISOkine® product carries no pyrogenic or pro-inflammatory contaminants, as assayed with monocyte activation test using Human 10-plex Cytokine Assay measuring IL-6, TNF-alpha and IL-1beta induction.
(Ref. The Blood Bank, University Hospital of Iceland, Reykjavik, Iceland.)

MOLECULAR WEIGHT
Recombinant human IGF-1 LR3 contains 83 amino acids and an N-terminal 14 amino acid histidine tag for a total length of 97 amino acids and has a predicted molecular mass of 10.8 kDa.

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