ISOkine
PREMIUM GRADE GROWTH FACTORS AND CYTOKINES

Animal-Free | Endotoxin-Free | Carrier-Free

GDNF, human, recombinant

Catalog Number: IK0900

DESCRIPTION
Glial cell line-derived neurotrophic factor (GDNF) is a protein promoting the survival of various neuronal subpopulations at different stages of development. These include dopaminergic neurons in midbrain, GDNF stimulates their survival, differentiation, and high-affinity dopamine uptake. The use of GDNF in the treatment of Parkinson's disease and spinal cord injuries has shown promising results. GDNF belongs to the TGF-ß superfamily, it is a homodimeric protein with the familial cysteine-knot structure. Cells expressing GDNF include Sertoli cells, type 1 astrocytes, Schwann cells, neurons, and skeletal muscle cells.

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 GDNF is assayed by measuring its dose-dependent effect on the proliferation of SH-SY5Y human neuroblastoma cells. The ED50 for this effect using GDNF is typically <10 ng/ml. Optimal concentration should be determined for specific applications and cell lines.

ENDOTOXIN LEVEL
Endotoxin level is < 0.0100 EU per 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 GDNF contains 134 amino acids and an N-terminal 6 amino acid histidine tag for a total length of 140 amino acids and has a predicted molecular mass of 15.9 kDa.

not for human use | for research use only

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