Miltenyi Biotec

Human IL-11
research grade

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1. Description

Products

Human IL-11, research grade.

Recombinant human interleukin 11.

Content in µg	Order no.
10	130-138-923
100	130-138-940

Biological activity

The ED_{50} is ≤0.1 ng/mL corresponding to an activity of ≥1×10^7 U/mg.

▲ **Note:** The ED50 is determined by its ability to induce alkaline phosphatase production in a HEK293 reporter cell line.

Primary structure

Single, non-glycosylated polypeptide chain (178 amino acid residues).

Molecular mass

19.1 kDa (calculated).

Source

Produced in HEK293 cells.

Product format

Lyophilized from a filtered (0.2 µm) buffer solution.

Stabilizer

Contains CHAPS.

Purity

>95% as determined by SDS-PAGE analysis.

Endotoxin level

Low endotoxin (<1.0 EU/µg cytokine) as determined by Limulus Amebocyte Lysate (LAL) assay.

Storage

Lyophilized Human IL-11, research grade should be stored at –20 °C. The expiration date is indicated on the vial label. Upon reconstitution aliquots should be stored at –20 °C or below. Avoid repeated freeze-thaw cycles.

Reconstitution

It is recommended to reconstitute lyophilized Human IL-11, research grade with deionized sterile-filtered water to a final concentration of 0.1–1.0 mg/mL in a minimal volume of 20 µL. Further dilutions should be prepared with 0.1% bovine serum albumin (BSA) or human serum albumin (HSA) in phosphate-buffered saline.

1.1 Background information

Interleukin 11 (IL-11) is a multifunctional cytokine belonging to the IL-6 family. It is found in various organs and tissues and is secreted by mesenchymal cells including fibroblasts, stromal cells, osteoclasts and epithelial cells. The IL-11 receptor is a heterodimeric protein expressed by different hematopoietic lineages such as megakaryocytes, erythroid and myeloid progenitors. In combination with other cytokines (IL-4, IL-3 and SCF), IL-11 regulates several hematopoietic processes, including megakaryocyte maturation.

IL-11 activates certain B and T cells and plays a role in primary and secondary immune responses as a modulator of autoinflammation in favor of Th2 polarization and allergic reactions. IL-11 is also involved in the regulation of osteoclast differentiation and blastocyst implantation. IL-11 is being investigated for the treatment of osteoporosis, thrombocytopenia and inflammatory conditions.

1.2 Applications

Human IL-11 can be used for a variety of applications including:

- Megakaryocyte colony formation assay (in combination with IL-3).
- Differentiation of erythroid progenitors (in combination with IL-3 and SCF).
- Culture of primitive hematopoietic precursors (in combination with IL-4).
- Osteoclast differentiation and maturation.

Optimal concentration for a specific application should be determined by a dose-response experiment.

Refer to **www.miltenyibiotec.com** for all data sheets and protocols. Miltenyi Biotec provides technical support worldwide. Visit www.miltenyibiotec.com for local Miltenyi Biotec Technical Support contact information.

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