Miltenyi Biotec

Human IL-6
research grade

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1. Description

Products

Human IL-6, research grade.

Recombinant human interleukin 6.

Content in µg	Order no.
10	130-095-365
25	130-093-929

Biological activity

The ED_{50} is ≤0.05 ng/mL corresponding to an activity of ≥2×10^7 IU/mg.

▲ **Note:** The ED_{50} is determined by proliferation assay using mouse B9 hybridoma cells according to Gaines-Das and Poole.[1] The proliferation assay was calibrated with the international standard for human IL-6 (NIBSC code 89/548) provided by the WHO/National Institute for Biological Standards and Control.

Primary structure

Single non-glycosylated polypeptide chain without *E. coli*-derived N-terminal methionine (183 amino acid residues).

Molecular mass

20.8 kDa.

Source

Produced in *E. coli*.

Product format

Lyophilized from a filtered (0.2 µm) buffer solution.

Stabilizer

Mannitol and trehalose.

Purity

>97% 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-6, 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-6, research grade with deionized sterile-filtered water to a final concentration of 0.1–1.0 mg/mL in a minimal volume of 100 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

IL-6, originally identified as a B cell differentiation factor, is a multifunctional cytokine, which regulates immune responses, hematopoiesis, acute phase responses, and inflammatory reactions. It induces, for instance, the terminal maturation of activated B cells into antibody-secreting plasma cells and acts in synergy with IL-3 to support the proliferation of hematopoietic stem cells. IL-6 is produced by many cell types, such as monocytes, fibroblasts, endothelial cells, T cells, etc. Disturbed IL-6 production has been associated with pathological processes including inflammatory autoimmune diseases, such as rheumatoid arthritis and cancer.

1.2 Applications

Human IL-6 can be used for a variety of applications, including:

- Induction of colony formation from hematopoietic progenitor cells in semi-solid medium.
- Replacement of feeder cells in the preparation of murine and human hybridomas.
- *In vitro* differentiation of T_H17 cells.

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

2. References

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7. Steinleitner, K. *et al.* (2012) EVI1 and MDS1/EVI1 expression during primary human hematopoietic progenitor cell differentiation into various myeloid lineages. Anticancer Res. 32 (11): 4883–4889.
8. Wright, C. *et al.* (2012) Detection of multiple autoantibodies in patients with ankylosing spondylitis using nucleic acid programmable protein arrays. Mol. Cell. Proteomics 11 (2): M9.00384.

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.

140-002-367.08

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