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#### 1. Description

<b>Products</b>	Human IL-34, research grade. Recombinant human interleukin 34.								
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Content in µg	Order no.								
2	130-105-781								
10	130-105-780								
100	130-108-977								
<b>Biological activity</b>	The biological activity is ascertained by the ability to promote secretion of MCP-1 from PBMCs..								
<b>Primary structure</b>	Two identical glycosylated polypeptide chains without N-terminal methionine (230 amino acid residues each, including an C-terminal His-Tag).								
<b>Molecular mass</b>	52.5 kDa (dimer).								
<b>Source</b>	Produced in HEK293 cells.								
<b>Product format</b>	Lyophilized from a filtered (0.2 µm) buffer solution.								
<b>Stabilizer</b>	None.								
<b>Purity</b>	>95% as determined by SDS-PAGE analysis.								
<b>Endotoxin level</b>	Low endotoxin (<1.0 EU/µg cytokine) as determined by Limulus Amebocyte Lysate (LAL) assay.								
<b>Storage</b>	Lyophilized Human IL-34, 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.								
<b>Reconstitution</b>	It is recommended to reconstitute lyophilized Human IL-34, 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 34 (IL-34) is a four helical homodimeric protein that does not belong to any already identified cytokine family. It is expressed by several different tissues upon inflammatory stimuli. Notably, IL-34 shares structural homology with M-CSF

and signals via the colony stimulating factor (CSF) receptor 1, and induces myeloid cell expansion and differentiation, similarly to other CSF (G-CSF, M-CSF, and GM-CSF). IL-34 promotes survival of monocytes and proliferation of macrophages, and plays a hematopoietic differentiation role in the bone marrow, inducing colony forming units of macrophages and promoting osteoclast differentiation, adhesion, and proliferation. A role of IL-34 in the development of myeloid compartments, especially dendritic cells and monocyte, but also Langerhans cells and microglia, is under investigation. Mouse IL-34 shares 71% protein sequence identity with human IL-34.

##### 1.2 Applications

Human IL-34 can be used for a variety of applications including:

- *In vitro* studies of monocyte, macrophage, and dendritic cell differentiation.
- Developmental studies of bone marrow and CNS.
- Investigation of CSFR1 signaling.

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

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