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<b>Products</b>	Human IL-11, research grade. Recombinant human interleukin 11.								
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2	130-094-623								
10	130-093-950								
100	130-103-439								
<b>Biological activity</b>	The ED <sub>50</sub> is ≤2 ng/mL corresponding to an activity of ≥5×10 <sup>5</sup> U/mg. <b>Note:</b> The ED <sub>50</sub> is determined by proliferation assay using mouse T11 cells.								
<b>Primary structure</b>	Single non-glycosylated polypeptide chain including N-terminal methionine (179 amino acid residues).								
<b>Molecular mass</b>	19.3 kDa.								
<b>Source</b>	Produced in <i>E. coli</i> .								
<b>Product format</b>	Lyophilized from a filtered (0.2 µm) buffer solution.								
<b>Stabilizer</b>	None.								
<b>Purity</b>	>97% 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-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.								
<b>Reconstitution</b>	It is recommended to reconstitute lyophilized Human IL-11, research grade with deionized sterile-filtered water to a final concentration of 0.5–1.0 mg/mL. 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 member of the IL-6 family. It is found in different organs and tissues and it is secreted by mesenchymal cells including fibroblasts, stromal cells, osteoclasts and epithelial cells. IL-11 receptor is an heterodimeric protein that is expressed by different hematopoietic lineages such as

megakaryocyte, erythroid, and myeloid progenitors. In combination with other cytokines (IL-4, IL-3, and SCF), IL-11 regulates several hematopoiesis processes, including megakaryocyte maturation. IL-11 activates certain B and T cells and has a role in primary and secondary immune responses as modulator of auto-inflammation in favor of Th2 polarization and allergic reactions. In addition, IL-11 participates in the regulation of osteoclast differentiation and blastocyst implantation. IL-11 is under investigation 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.

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