

Contents

1. Description

1.1 Background information

1.2 Applications

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Products	Human IL-10, research grade. Recombinant human interleukin 10.						
	<table> <tr> <th>Content in µg</th><th>Order no.</th></tr> <tr> <td>10</td><td>130-138-922</td></tr> <tr> <td>100</td><td>130-138-921</td></tr> </table>	Content in µg	Order no.	10	130-138-922	100	130-138-921
Content in µg	Order no.						
10	130-138-922						
100	130-138-921						
Biological activity	The ED ₅₀ is ≤2 ng/mL corresponding to an activity of ≥5×10 ⁵ U/mg. ▲ Note: The ED ₅₀ is determined by proliferation assay using mouse MC/9 cells.						
Primary structure	Two identical, glycosylated, non-covalently linked polypeptide chains (160 amino acid residues each).						
Molecular mass	18.6 kDa (monomer, calculated).						
Source	Produced in HEK293 cells.						
Product format	Lyophilized from a filtered (0.2 µm) buffer solution.						
Stabilizer	None.						
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-10, 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-10, 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 10 (IL-10) is an α-helical homodimeric cytokine with immunosuppressive and anti-inflammatory properties. It inhibits the secretion of Th1 cytokines such as IL-1, IFN-γ, and TNF-α, and the surface expression of molecules for antigen presentation.

On the other hand, IL-10 promotes the humoral response, through stimulation of the Th2 response, B cell maturation, and antibody secretion. After secretion, IL-10 binds to IL-10 Ra/IL-10 R1 on target cells. IL-10 is mainly secreted by monocytes, Th2 lymphocytes, regulatory T cells, some B cell subsets, dendritic cells, macrophages, natural killer cells, eosinophils, neutrophils, and mastocytes, but also keratinocytes and hepatic stellate cells.

IL-10 plays a central role in the control mechanisms that limit inflammatory responses and ultimately prevent immunopathology. Mutations of the IL-10 gene may also be associated with susceptibility to infections, autoimmune diseases, and allergies.

The human IL-10 protein shares 73% homology with mouse IL-10 and can activate mouse cells, however mouse IL-10 fails to activate human cells.

1.2 Applications

Human IL-10 can be used for a variety of applications including:

- *In vitro* inhibition of inflammatory cytokine production by Th1 cells, macrophages, and monocytes.
- *In vitro* induction of proliferation, differentiation, and antibody production in B cells, in synergy with IL-4.
- Dendritic cell-mediated *in vitro* activation of type 1 regulatory T cells (Tr1).
- *In vitro* co-stimulation of mast cell proliferation in the presence of IL-3 and IL-4.

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

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