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1. Description

Products	Human IFN- γ 1b, research grade. Recombinant human interferon γ 1b.						
	<table border="1"> <thead> <tr> <th>Content in μg</th><th>Order no.</th></tr> </thead> <tbody> <tr> <td>10</td><td>130-096-872</td></tr> <tr> <td>25</td><td>130-096-873</td></tr> </tbody> </table>	Content in μ g	Order no.	10	130-096-872	25	130-096-873
Content in μ g	Order no.						
10	130-096-872						
25	130-096-873						
Biological activity	The ED ₅₀ is ≤ 0.1 ng/mL corresponding to an activity of $\geq 1 \times 10^7$ IU/mg. Note: The ED ₅₀ was determined by growth inhibition assays using human HT-29 cells. ¹ The inhibition assay was calibrated with the WHO International Standard for human IFN- γ (Gxg 01-902-535, NR-3086) provided by BEI Resources, National Institute of Allergy and Infectious Diseases (NIAID), NIH: Human Recombinant Gamma interferon.						
Primary structure	Two identical, non-glycosylated polypeptide chains (139 amino acid residues). Sequence identical with therapeutic IFN- γ 1b (Imukin®).						
Molecular mass	16.3 kDa (monomer).						
Source	Produced in <i>E. coli</i> .						
Product format	Lyophilized from a filtered (0.2 μ m) buffer solution.						
Stabilizer	Mannitol and trehalose.						
Purity	>97% as determined by SDS-PAGE analysis.						
Endotoxin level	Low endotoxin (<1.0 EU/ μ g cytokine) as determined by Limulus Amebocyte Lysate (LAL) assay.						
Storage	Lyophilized Human IFN- γ 1b, 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 IFN- γ 1b, research grade with deionized sterile-filtered water to a final concentration of 0.1–1.0 mg/mL in a minimal volume of 100 μ L. 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

IFN- γ , the only type II interferon, possesses potent anti-viral activity and immunoregulatory properties. It is structurally unrelated to the type I interferons and binds to a different receptor expressed by most immune cells. IFN- γ is produced predominantly by NK cells and T cells. IFN- γ enhances NK cell and macrophage activity and regulates B cell functions, like immunoglobulin production and class switching. In addition, IFN- γ orchestrates leukocyte attraction and directs growth, maturation, and differentiation of many cell types. The activity of human IFN- γ is species-specific.

1.2 Applications

Human IFN- γ 1b can be used for a variety of applications, including:

- Stimulation of monocytes, macrophages, and microglia.
- *In vitro* maturation of Mo-DCs.
- Apoptosis and cell growth inhibition assays.
- Adhesion and migration assays.

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

2. References

1. Wong, V.L. *et al.* (1989) Growth-inhibitory activity of interferon-beta against human colorectal carcinoma cell lines. *Int. J. Cancer* 43: 526–530.

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