

Recombinant human IFN- α 10

Mammalian cell-expressed human interferon alpha 10 (alpha C) with HSA

Cat. code: rcyc-hifna10

<https://www.invivogen.com/human-ifna2b>

For research use only

Version 23A16-NJ

PRODUCT INFORMATION

Contents

- 1 μ g of lyophilized recombinant human IFN- α 10

Note: This product is sterile filtered prior to lyophilization.

- 1.5 ml endotoxin-free water

Storage and stability

• Recombinant human IFN- α 10 is shipped at room temperature. Upon receipt it should be immediately stored at -20 °C. Lyophilized product is stable for 6 months at -20 °C.

- Upon resuspension, prepare aliquots of recombinant human IFN- α 1 and store at -80 °C for 4 months.

Note: Avoid repeated freeze-thaw cycles.

Quality control

- Purity: \geq 95% (SDS-PAGE)
- Endotoxin: \leq 1 EU/ μ g
- The biological activity has been confirmed using HEK-Blue™ IFN- α / β cells (see validation data sheet available on our website).
- The units have been determined for each lot using a corresponding calibrated standard.

Characteristics

- Source: Mammalian; Chinese hamster ovary (CHO) cells
- Molecular mass: 17 -20 kDa (SDS-PAGE)
- Chromosome: 9
- UniProt ID: P01566
- Alternate name: IFN-alpha C
- Formulation: Recombinant human IFN- α 10 was lyophilized from a 0.2 μ m filtered phosphate buffer solution (pH 7.4) containing 2% human serum albumin (HSA) and 5% saccharose.
- Solubility: 100 μ g/ml in water

APPLICATIONS

- Cellular assays (e.g. using HEK-Blue™ IFN- α / β cells)
- ELISA.

PRODUCT DESCRIPTION

Natural human IFN- α 10 is induced in peripheral blood mononuclear cells upon incubation with CpG-oligonucleotides and in plasmacytoid dendritic cells upon incubation with CpG-oligonucleotides or imiquimod¹.

This subtype of IFN- α is classified among the top three strongest ISG inducers^{2,3} with high anti-viral activity *in vitro* against human metapneumovirus⁴ and hepatitis C virus (HCV)⁵. Human IFN- α 10 displays a strong capacity to induce IFIT1, CXCL10, CXCL11, ISG15 and CCL8³. Human IFN- α 10 expression is IFN- α receptor-dependent as it is induced by other IFN- α subtypes upon infection with low doses of Sendai virus *in vitro*⁶.

InvivoGen provides a glycosylated recombinant human IFN- α 10 produced in CHO cells. Of note, glycosylation stabilizes proteins against physicochemical instabilities.

1. Hillyer P. *et al.*, 2012. Expression profiles of human interferon-alpha and interferon-lambda subtypes are ligand- and cell-dependent. *Immunol. Cell. Biol.* 90(8):774. 2. Kurunganti S. *et al.*, 2014. Production and characterization of thirteen human type-I interferon- α subtypes. *Protein Expr. Purif.* 103: 75. 3. Moll H.P. *et al.*, 2011. The differential activity of interferon- α subtypes is consistent among distinct target genes and cell types. *Cytokines.* 53:52. 4. Scagnolari C. *et al.*, 2011. In vitro sensitivity of human metapneumovirus to type I interferons. *Viral Immunol.* 24(2):159. 5. Koyama T. *et al.*, 2006. Divergent activities of interferon-alpha subtypes against intracellular hepatitis C virus replication. *Hepatology Res.* 34(1):41. 6. Zaritsky L.A. *et al.*, 2015. Virus multiplicity of infection affects type I interferon subtype induction profiles and interferon-stimulated genes. *J. Virol.* 89:11534.

METHODS

Preparation of stock solution (20 μ g/ml):

1. Add 50 μ l endotoxin-free water (provided) to 1 μ g of recombinant hIFN- α 10 and mix gently by pipetting until completely resuspended.
2. Use immediately or prepare aliquots and store at -80 °C for 4 months. Avoid freeze-thaw cycles.
3. Further dilutions can be prepared in the appropriate aqueous buffer, such as cell culture medium containing serum.

RELATED PRODUCTS

Product	Description	Cat. Code
Anti-hIFN- α -IgG	Neutralizing antibody	mabg-hifna-3
HEK-Blue™ IFN- α / β cells	Type I IFN reporter cells	hkb-ifnab
Quanti-Blue™ Detection	Detection reagent	rep-qbs
LumiKine™ Xpress hIFN- α 2.0	Bioluminescent ELISA kit	luex-hifnav2

TECHNICAL SUPPORT

InvivoGen USA (Toll-Free): 888-457-5873

InvivoGen USA (International): +1 (858) 457-5873

InvivoGen Europe: +33 (0) 5-62-71-69-39

InvivoGen Asia: +852 3622-3480

E-mail: info@invivogen.com

 **InvivoGen**
www.invivogen.com

PRODUCT DESCRIPTION

Natural human IFN- α 10 is induced in peripheral blood mononuclear cells upon incubation with CpG-oligonucleotides and in plasmacytoid dendritic cells upon incubation with CpG-oligonucleotides or imiquimod⁶.

This subtype of IFN- α is classified among the top three strongest ISG inducers^{5,7} with high anti-viral activity *in vitro* against human metapneumovirus⁸ and hepatitis C virus (HCV)⁹. Human IFN- α 10 displays a strong capacity to induce IFIT1, CXCL10, CXCL11, ISG15 and CCL8⁷. Human IFN- α 10 expression is IFN- α receptor-dependent as it is induced by other IFN- α subtypes upon infection with low doses of Sendai virus *in vitro*¹⁰.

2. **Schreiber G.** 2017. The molecular basis for differential type I interferon signaling. *J. Biol. Chem.* 292:7285-94. 3. **Manry J. et al.**, 2011. Evolutionary genetic dissection of human interferons. *J. Exp. Med.* 208:2747-59. 4. **Levin D. et al.**, 2014. Multifaceted activities of type I interferon are revealed by a receptor antagonist. *Sci. Signal.* 7(327). ra50. 5. **Kurunganti S. et al.**, 2014. Production and characterization of thirteen human type-I interferon- α subtypes. *Protein Expr. Purif.* 103: 75-83. 6. **Hillyer P. et al.**, 2012. Expression profiles of human interferon-alpha and interferon-lambda subtypes are ligand- and cell-dependent. *Immunol. Cell. Biol.* 90(8):774-83. 7. **Moll H.P. et al.**, 2011. The differential activity of interferon- α subtypes is consistent among distinct target genes and cell types. *Cytokines.* 53:52-59. 8. **Scagnolari C. et al.**, 2011. In vitro sensitivity of human metapneumovirus to type I interferons. *Viral Immunol.* 24(2):159-64. 9. **Koyama T. et al.**, 2006. Divergent activities of interferon-alpha subtypes against intracellular hepatitis C virus replication. *Hepato. Res.* 34(1):41-9. 10. **Zaritsky L.A. et al.**, 2015. Virus multiplicity of infection affects type I interferon subtype induction profiles and interferon-stimulated genes. *J. Virol.* 89:11534-48.

PROCEDURE

Preparation of stock solution (20 μ g/ml):

1. Add 50 μ l endotoxin-free water (provided) to 1 μ g of recombinant hIFN- α .
2. Mix by pipetting. Do not vortex.
3. Use immediately or prepare aliquots of recombinant human IFN- α and store at -80 °C for 4 months. Avoid freeze-thaw cycles.
4. Further dilutions can be prepared in the appropriate aqueous buffer, such as cell culture medium containing serum.

RELATED PRODUCTS

Product	Description	Cat. Code
Recombinant hIFN- α set	Set of 12 hIFN- α subtypes	rcyck-hifna
Anti-hIFN- α -IgG	Neutralizing antibody	mabg-hifna-3
HEK-Blue™ IFN- α / β cells	Type I IFN reporter cells	hkb-ifnab
LumiKine™ Xpress hIFN- α	Bioluminescent ELISA kit	luex-hifna

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