

# Recombinant human IFN- $\alpha$ 2b

Mammalian cell-expressed human interferon alpha 2b (alpha 2) with HSA

Cat. code: rcyc-hifna2b

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

For research use only

Version 23A17-NJ

## PRODUCT INFORMATION

### Contents

- 1  $\mu$ g of lyophilized recombinant human IFN- $\alpha$ 2b
- Note: This product is sterile filtered prior to lyophilization.
- 1.5 ml endotoxin-free water

### Storage and stability

- Recombinant human IFN- $\alpha$ 2b 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- $\alpha$ 2b 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/ $\mu$ g
- The biological activity has been confirmed using [HEK-Blue™ IFN- \$\alpha\$ / \$\beta\$  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:  $\approx$  21 kDa (SDS-PAGE)
- Chromosome: 9
- UniProt ID: P01563
- Alternate name: IFN-alpha 2
- Formulation: Recombinant human IFN- $\alpha$ 2b was lyophilized from a 0.2  $\mu$ m filtered phosphate buffer solution (pH 7.4) containing 2% human serum albumin (HSA) and 5% saccharose.
- Solubility: 100  $\mu$ g/ml in water

## APPLICATIONS

- Cellular assays (e.g. using [HEK-Blue™ IFN- \$\alpha\$ / \$\beta\$  cells](#))
- ELISA.

## PRODUCT DESCRIPTION

The human interferon  $\alpha$ 2 (hIFN- $\alpha$ 2) was the first highly active IFN subtype to be cloned and available for research. For this reason, hIFN- $\alpha$ 2 has been the prototypic IFN- $\alpha$  among all other subtypes of this family used in fundamental research and most clinical applications<sup>1,2</sup>. Human IFN- $\alpha$ 2a and - $\alpha$ 2b are allelic variants differing by a neutral lysine to arginine substitution at position 23 of the mature protein, respectively<sup>1,2</sup>. They are the only IFN- $\alpha$  subtypes with an O-glycosylation site (on Thr106)<sup>2</sup>. All IFN- $\alpha$ s bind to the heterodimeric receptor IFNAR1/R2 and trigger the JAK1/TYK2 and ISGF3 (STAT1/STAT2/IRF9) pathway, inducing the expression of various interferon stimulated genes (ISGs)<sup>3</sup>.

InvivoGen provides a glycosylated recombinant human IFN- $\alpha$ 2b produced in CHO cells. Of note, glycosylation stabilizes proteins against physicochemical instabilities.

1. Paul F. *et al.*, 2015. IFNA2: The prototypic human interferon. *Gene*. 2. Antonelli G. *et al.*, 2015. Twenty-five years of type I interferon-based treatment: A critical analysis of its therapeutic use. *Cytokine Growth Factor Rev.* 26(2):121-31. 3. Schreiber G. 2017. The molecular basis for differential type I interferon signaling. *J. Biol. Chem.* 292:7285-94.

## METHODS

### Preparation of stock solution (20 $\mu$ g/ml):

1. Add 50  $\mu$ l endotoxin-free water (provided) to 1  $\mu$ g of recombinant hIFN- $\alpha$ 2b 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- $\alpha$ -IgG	Neutralizing antibody	mabg-hifna-3
HEK-Blue™ IFN- $\alpha$ / $\beta$ cells	Type I IFN reporter cells	hkb-ifnab
Quanti-Blue™ Detection	Detection reagent	rep-qbs
LumiKine™ Xpress hIFN- $\alpha$ 2.0	Bioluminescent ELISA kit	luex-hifnav2

## TECHNICAL SUPPORT

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