

## IFN- $\beta$ 1 $\alpha$

### Interferon $\beta$ 1 $\alpha$

#### human, recombinant, Chinese Hamster Ovary (CHO) cells

| Cat. No. | Amount     |
|----------|------------|
| PR-444   | 10 $\mu$ g |

For *in vitro* use only  
Quality guaranteed for 12 months  
Store at -20°C

#### Avoid freeze / thaw cycles

#### Form

Lyophilized.

#### Solubility

It is recommended to reconstitute the lyophilized IFN- $\beta$  in sterile bidest H<sub>2</sub>O not less than 100  $\mu$ g/ml, which can then be further diluted to other aqueous solutions.

#### Activity

EC<sub>50</sub>: 2.7 x 10<sup>8</sup> IU/mg, determined in a viral resistance assay (human "Wish" cell line and VSV virus or the monkey VERO cell line with EMCV virus).

#### Molecular Weight

23 kDa

#### Purity

≥ 95% by SDS-PAGE and RP-HPLC

#### Description

Interferon  $\beta$  1 $\alpha$  is a single, glycosylated polypeptide containing 166 amino acids.

Interferon  $\beta$  is one of the type I interferons produced by fibroblasts in response to stimulation by live or inactivated virus or by double-stranded RNA. It is a cytokine with antiviral, antiproliferative, and immunomodulating activity. The synthesis of IFN- $\beta$  can be induced by common inducers of interferons, including viruses, double-stranded RNA, and microorganisms. It is induced also by some cytokines such as TNF and IL-1. In contrast to IFN- $\alpha$ , IFN- $\beta$  is strictly species-specific. IFN- $\beta$  of other species is inactive in human cells.

IFN- $\beta$  is involved in the regulation of unspecific humoral immune responses and immune responses against viral infections. IFN- $\beta$  increases the expression of HLA class I antigens and blocks the expression of HLA class II antigens stimulated by IFN- $\gamma$ .

Recombinant Human Interferon- $\beta$  1 $\alpha$  produced in CHO (Chinese Hamster Ovarian) cells is a single, glycosylated polypeptide chain containing 166 amino acids and having a molecular mass of 22.5 kDa.

IFN- $\beta$  1 $\alpha$  is purified by proprietary chromatographic techniques.

#### Amino acid sequence

MSYNLLGFLQ RSSNFQCQKL LWQLNGRLEY CLK-  
DRMNFDI PEEIKLQQF QKEDAALTIY EMLQNIFAIF  
RQDSSSTGWN ETIVENLLAN VYHQINHLKT VLEEKLEKED  
FTRGKLMSSL HLKRYGRIL HYLKAKEYSH CAWTIVRVEI  
LRNFYFINRL TGYLRN

#### Selected References:

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Kalanie *et al.* (2004) Interferon Beta-1 $\alpha$  and intravenous immunoglobulin treatment for multiple sclerosis in Iran. *Eur. Neurol.* **52**:202.

Filippi *et al.* (2004) Interferon beta-1 $\alpha$  for brain tissue loss in patients at presentation with syndromes suggestive of multiple sclerosis: a randomised, double-blind, placebo-controlled trial. *Lancet*. **364**:1489.