

## IFN-tau, Ovine

**Cat. No.:** Z02790-10

**Size:** 10.0 ug

**Synonyms:** Interferon-tau ( IFN-tau ), Ovine;

### Description:

IFN-tau is a new class of type I IFN that is secreted by the trophoblast and is the signal for maternal recognition of pregnancy in sheep. IFN- tau has potent immunosuppressive and antiviral activities similar to other type I IFN but is less cytotoxic than IFN- $\alpha/\beta$ . The current investigation concerns the effect of recombinant ovine IFN- tau (rOvIFN- tau) on the modulation of MHC class I and II expression on cloned mouse cerebrovascular endothelial (CVE) cells. IFN- tau induced tyrosine phosphorylation of Stat1 and up-regulated the expression of MHC class I on CVE. One proposed action by which type I IFN reduce the relapse rate in MS is via interference with IFN- $\gamma$ -induced MHC class II expression. IFN- tau was shown to downregulate IFN- $\gamma$ -induced MHC class II expression on CVE and, hence, may be of potential therapeutic value in downregulating inflammation in the central nervous system (CNS). IFN- tau did not upregulate the expression of MHC class II on CVE. IFN- tau also inhibited the replication of Theiler's virus in CVE.

### Amino Acid Sequence:

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00001 CYLSRKLMLD ARENLKLLDR MNRLSPHSCL QDRKDFGLPQ
00041 EMVEGDQLQK DQAFPVLYEM LQQSFNLFYT EHSSAAWDTT
00081 LLEQLCTGLQ QQLDHLDTCR GQVMGEEDSE LGNMDPIVTV
00121 KKYFQGIYDY LQEKGYSDCA WEIVRVEMMR ALTVSTTLQK
00161 RLTKMGDDLN SP
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**Source:** *P. pastoris*

**Species:** Ovine

**Biological Activity:** Fully biologically active when compared to IFN-alpha. The specific activity determined by a viral resistance assay is no less than  $1.0 \times 10^7$  IU/mg.

**Molecular Weight:** Approximately 19.9 kDa, a single non-glycosylated polypeptide chain containing 172 amino acids.

**Formulation:** Lyophilized from a 0.2  $\mu$ m filtered concentrated solution in PBS, pH 7.4.

**Appearance:** Sterile Filtered White lyophilized (freeze-dried) powder.

**Reconstitution:** We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at  $\leq -20^\circ\text{C}$ . Further dilutions should be made in appropriate buffered solutions.

**Purity:** > 95 % by SDS-PAGE and HPLC analyses.

**Endotoxin Level:** Less than 1 EU/ $\mu$ g of rOvIFN- $\tau$  as determined by LAL method.

**Storage:** This lyophilized preparation is stable at 2-8  $^\circ\text{C}$ , but should be kept at  $-20^\circ\text{C}$  for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8  $^\circ\text{C}$ . For maximal stability, apportion the reconstituted preparation into working aliquots and store at  $-20^\circ\text{C}$  to  $-70^\circ\text{C}$ . Avoid repeated freeze/thaw cycles.