

**APA222Po02 100µg**

**Active Interferon Beta (IFN $\beta$ )**

**Organism Species: *Sus scrofa*; *Porcine (Pig)***

***Instruction manual***

FOR RESEARCH USE ONLY

NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

---

---

1st Edition (Apr, 2016)

## **[ PROPERTIES ]**

**Source:** Prokaryotic expression.

**Host:** *E. coli*

**Residues:** Met22~Asn186

**Tags:** N-terminal His-tag

**Purity:** >97%

**Endotoxin Level:** <1.0EU per 1µg (determined by the LAL method).

**Buffer Formulation:** PBS, pH7.4, containing 0.01% SKL, 5% Trehalose.

**Applications:** Cell culture; Activity Assays.

(May be suitable for use in other assays to be determined by the end user.)

**Predicted isoelectric point:** 4.6

**Predicted Molecular Mass:** 23.3kDa

**Accurate Molecular Mass:** 23kDa as determined by SDS-PAGE reducing conditions.

## **[ USAGE ]**

Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.

## **[ STORAGE AND STABILITY ]**

**Storage:** Avoid repeated freeze/thaw cycles.

Store at 2-8°C for one month.

Aliquot and store at -80°C for 12 months.

**Stability Test:** The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37°C for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition.

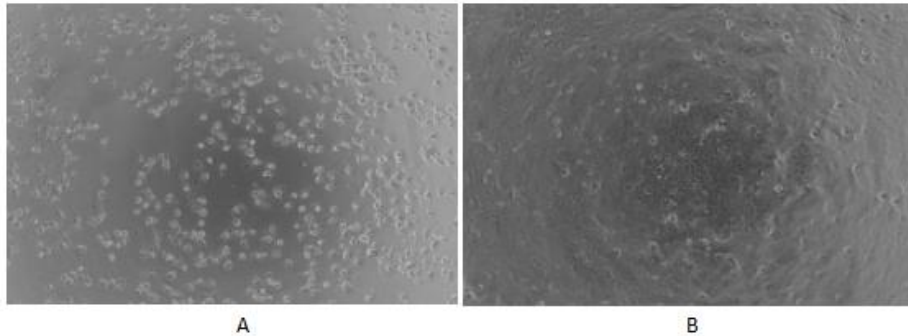
## [ SEQUENCE ]

```
MSYDVLRYQ QRSSNLACQK LLGQLPGTPQ
YCLEDRMNFV VPEEIMQPPQ FQKEDAVLII HEMLQQIFGI LRRNFSSTGW
NETVIKTILV ELDGQMDDLE TILEEIMEEE NFPRGDMTIL HLKYYLSIL
QYLKSKYEYS CAWTVVQVEI LRNFSFLNRL TDYLRN
```

## [ ACTIVITY ]

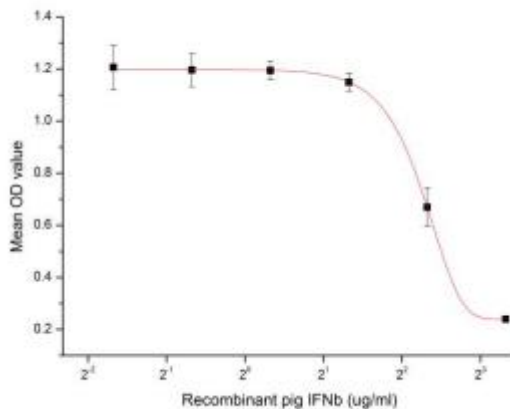
Interferon Beta (IFN $\beta$ ) belongs to type I interferons (IFNs) family which a large subgroup of interferon proteins that help regulate the activity of the immune system. The IFN $\beta$  proteins are produced in large quantities by fibroblasts. They have antiviral activity that is involved mainly in innate immune response. Two types of IFN $\beta$  have been described, IFN $\beta$ 1 (IFNB1) and IFN $\beta$ 3 (IFNB3). IFN $\beta$ 1 is used as a treatment for multiple sclerosis as it reduces the relapse rate. To test the effect of IFN $\beta$  on cell apoptosis, A549 cells were seeded into triplicate wells of 96-well plates at a density of 5,000 cells/well and allowed to attach, replaced with serum-free overnight, then the medium was replaced with 5% serum standard DMEM prior to the addition of various concentrations of recombinant pig IFN $\beta$ . After incubated for 48h, cells were observed by inverted microscope and cell proliferation was measured by Cell Counting Kit-8 (CCK-8). Briefly, 10  $\mu$ l of CCK-8 solution was added to each well of the plate, then the absorbance at 450 nm was measured using a microplate reader after incubating the plate for 1-4 hours at 37 °C. Apoptosis of A549 cells after incubation with IFN $\beta$  for 48h observed by inverted microscope was shown in Figure1. Cell viability was assessed by

CCK-8(Cell Counting Kit-8 ) assay after incubation with recombinant IFN $\beta$  for 48h. The result was shown in Figure2. It was obvious that IFN $\beta$  significantly decreased cell viability of A549 cells. The ED50 of recombinant pig IFN $\beta$  is 4.9  $\mu$ g/ml.



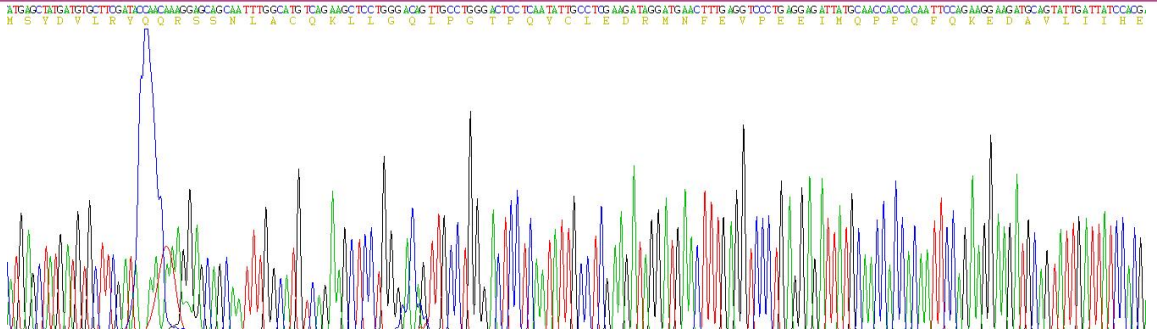
**Figure 1. Cell apoptosis of A549 cells after stimulated with IFN $\beta$ .**

(A)A549 cells cultured in DMEM, stimulated with 10 $\mu$ g/ml IFN $\beta$  for 48h;  
(B)Unstimulated A549 cells cultured in DMEM for 48h.

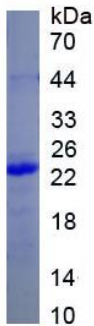


**Figure 2. Cell apoptosis of A549 cells after stimulated with IFN $\beta$ .**

## [ IDENTIFICATION ]

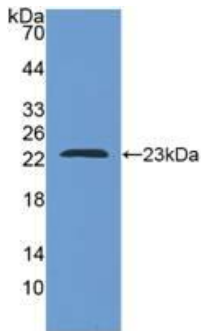


**Figure 3. Gene Sequencing (extract)**



**Figure 4. SDS-PAGE**

**Sample: Active recombinant IFN $\beta$ , Pig**



**Figure 5. Western Blot**

**Sample: Recombinant IFN $\beta$ , Pig;**

**Antibody: Rabbit Anti-Pig IFN $\beta$  Ab (PAA222Po02)**

**[ IMPORTANT NOTE ]**

The kit is designed for research use only, we will not be responsible for any issue if the kit was used in clinical diagnostic or any other procedures.