APA033Bo62 100μg
Active Interferon Alpha (IFNa)
Organism Species: *Bos taurus; Bovine (Cattle)*
Instruction manual

FOR RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

13th Edition (Revised in Aug, 2023)

[PROPERTIES]

Source: Eukaryotic expression.
Host: 293F cell
Residues: Cys24~Asp189
Tags: N-terminal His Tag and C-terminal Fc Region of Human IgG1
Purity: >95%
Endotoxin Level: <1.0EU per 1μg (determined by the LAL method).
Buffer Formulation: PBS, pH7.4, containing 5% Trehalose .
Original Concentration: 200μg/mL
Applications: Activity Assays.
(May be suitable for use in other assays to be determined by the end user.)
Predicted isoelectric point: 9.4
Predicted Molecular Mass: 50.0kDa
Accurate Molecular Mass: 50kDa 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 37ºC 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]

CHLPHSH SLAKRRVLTL LRQLRRVSPS
SCLQDRNDFA FPQEALGGSQ LQKAQAISVL HEVTQHTFQL FSTEGSAAVW
DESLLDRLRT ALDQQLTDLQ ACLRQEEGLP GAPLLKEDSS LAVRKYFHRL
TLYLQEKRHS PCAWEVVRAQ VMRAFSSSTN LQERFRRKD

[ACTIVITY]

Interferon Alpha (IFNa) is a pleiotropic cytokine belonging to the type I interferon family, primarily secreted by immune cells such as plasmacytoid dendritic cells in response to viral infections and other pathogens. It plays a central role in the innate immune response by inducing the expression of hundreds of interferon-stimulated genes (ISGs) that exert antiviral, antiproliferative, and immunomodulatory effects. IFNa signals through a cell-surface receptor complex composed of IFNAR1 and IFNAR2, initiating a cascade of intracellular events that are critical for host defense against viruses and for regulating immune homeostasis. Dysregulation of IFNa signaling is implicated in various autoimmune diseases, highlighting its importance in maintaining immune balance. IFNa binding to its receptor induces the activation of TYK2, which is constitutively associated with the IFNAR1 subunit, thereby initiating downstream JAK-STAT signaling.Thus a functional ELISA assay was conducted to detect the interaction of recombinant cattle IFNa and recombinant human TYK2. Briefly, IFNa was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μl were then transferred to TYK2-coated microtiter wells and incubated for 1h at 37℃. Wells were washed with PBST and incubated for 1h with anti-IFNa pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37℃, wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50 μL stop solution to the wells and read at 450/630nm immediately. The binding activity of recombinant cattle

IFNa and recombinant hunan TYK2 was shown in Figure 1, the EC50 for this effect is 1.14μg/mL.

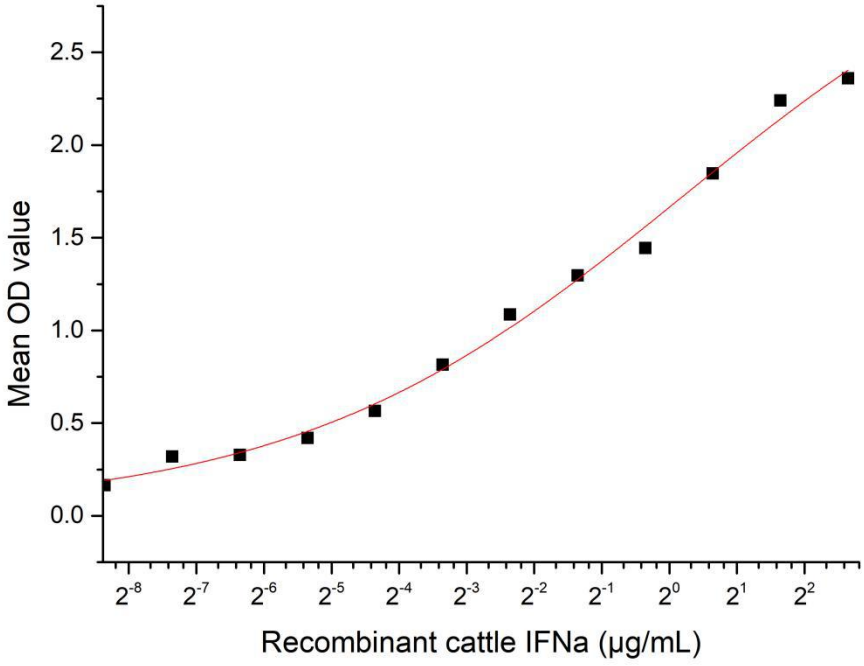


Figure 1. The binding activity of recombinant cattle IFNa and human TYK2

[IDENTIFICATION]

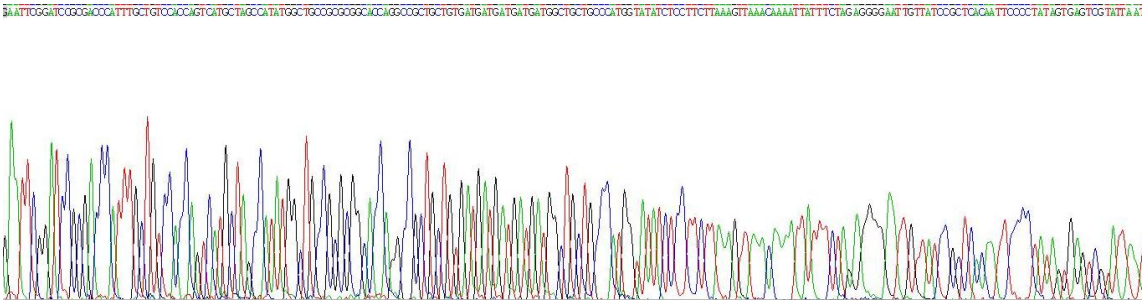


Figure 2. Gene Sequencing (extract)

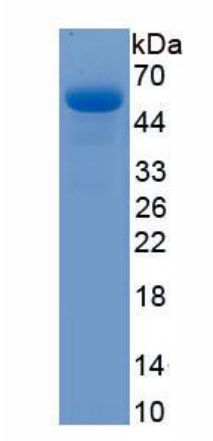


Figure 3. SDS-PAGE

Sample: Active recombinant IFNa, Cattle

[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.