

APP943Mu61 100µg
Active HIV1 Tat Specific Factor 1 (HTATSF1)
Organism Species: *Mus musculus (Mouse)*
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: Met1~Asn180

Tags: N-terminal His-tag

Purity: >80%

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: 4.1

Predicted Molecular Mass: 21.9kDa

Accurate Molecular Mass: 30&32-36kDa as determined by SDS-PAGE reducing conditions.

Phenomenon explanation:

The possible reasons that the actual band size differs from the predicted are as follows:

1. Splice variants: Alternative splicing may create different sized proteins from the same gene.
2. Relative charge: The composition of amino acids may affects the charge of the protein.
3. Post-translational modification: Phosphorylation, glycosylation, methylation etc.
4. Post-translation cleavage: Many proteins are synthesized as pro-proteins, and then cleaved to give the active form.
5. Polymerization of the target protein: Dimerization, multimerization etc.

[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]

MSGNNLSGNDEFDEQLRMQELYGGDPKEGDTQNEPSGEAHS LGQPPDDTPYEWDLDKKA
WFPKITEDFIATYQANYGFSSDGASSSTANVQDANTKAVEEPPQKEVPETPDSKRKGEKRKAE
SGWFHVEEDRNTNVVYVSLPPDITVDEFIQLMSKFGIIMRDPQTEEFKVKLYKDDQGN

[ACTIVITY]

HIV1 Tat Specific Factor 1 (HTATSF1), also known as elongin A2, is a cellular protein initially identified for its role in regulating HIV-1 transcription. It interacts with the viral Tat protein to enhance transactivation of HIV-1 long terminal repeats (LTRs), promoting viral RNA elongation. Beyond viral processes, HTATSF1 functions in cellular transcription, associating with RNA polymerase II to facilitate transcriptional elongation and pre-mRNA splicing. It is ubiquitously expressed, with roles in cell cycle progression and stress responses. Dysregulation of HTATSF1 may contribute to viral pathogenesis and certain cancers, making it a target for studying host-virus interactions and therapeutic development. Besides, Serine/Arginine Rich Splicing Factor 2 (SRSF2) has been identified as an interactor of HTATSF1, thus a functional binding ELISA assay was conducted to detect the interaction of recombinant mouse HTATSF1 and

recombinant human SRSF2. Briefly, HTATSF1 was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μ l were then transferred to SRSF2-coated microtiter wells and incubated for 1h at 37 $^{\circ}$ C. Wells were washed with PBST and incubated for 1h with anti-HTATSF1 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37 $^{\circ}$ C, wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37 $^{\circ}$ C. Finally, add 50 μ L stop solution to the wells and read at 450/630nm immediately. The binding activity of recombinant mouse HTATSF1 and recombinant human SRSF2 was shown in Figure 1, the EC50 for this effect is 0.466 μ g/mL.

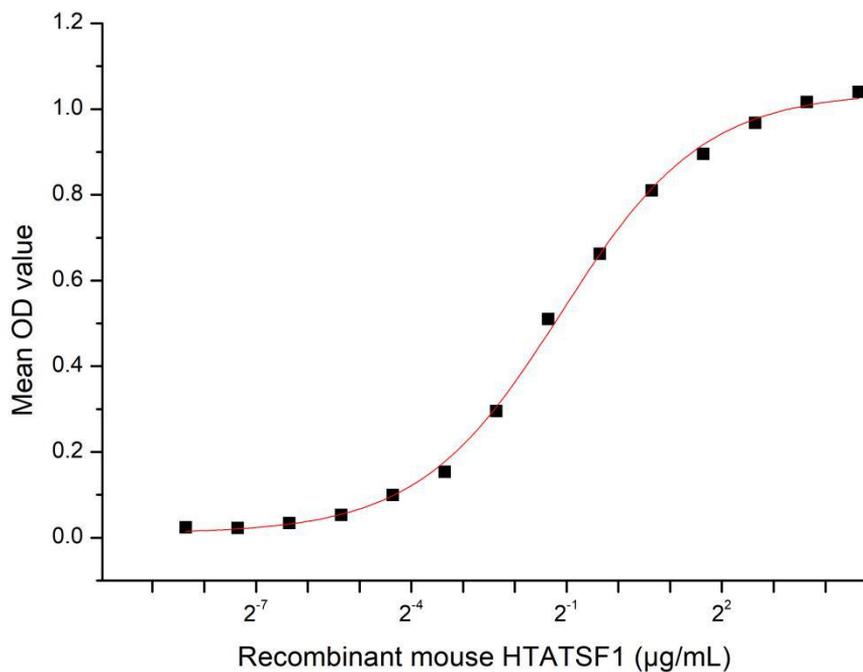


Figure 1. The binding activity of recombinant mouse HTATSF1 and recombinant human SRSF2

[IDENTIFICATION]

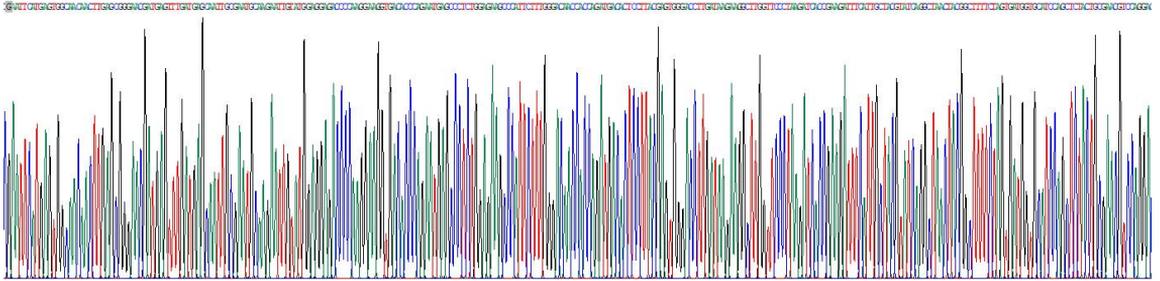


Figure 2. Gene Sequencing (extract)

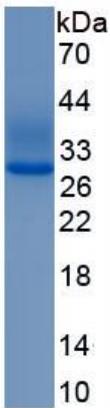


Figure 3. SDS-PAGE

Sample: Active recombinant HTATSF1, Mouse

[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.