

# HIV-1 Tat-SF1 (14): sc-135938

## BACKGROUND

HIV-1 Tat-SF1 (HIV-1 Tat-specific factor 1) is a phosphoprotein that plays a role in the process of transcriptional elongation. It is ubiquitously expressed and localizes to the nucleus. HIV-1 Tat-SF1 interacts with Tat, P-TEFb, TFIIF RAP 30, CA150, Spt5, Pol II and U snRNPs. It is structurally similar to CUS2 in yeast. HIV-1 Tat-SF1 contains an acidic C-terminal motif and two RNA recognition motif (RRM) domains that mediate its interaction with U snRNPs. HIV-1 Tat-SF1 forms a complex with U snRNP, thereby coupling transcription and splicing. HIV-1 Tat-SF1 expression is upregulated by the HIV-1 proteins Nef and gp120. It acts as a cofactor for the Tat-enhanced transcription of HIV-1 and is required, along with SPT5, for the activation of Tat. Overexpression of Tat-SF1 and SPT5 stimulates the transcriptional activity of Tat.

## REFERENCES

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- Parada, C.A. and Roeder, R.G. 1999. A novel RNA polymerase II-containing complex potentiates Tat-enhanced HIV-1 transcription. *EMBO J.* 18: 3688-3701.
- Kim, J.B., et al. 1999. Tat-SF1 protein associates with RAP 30 and human SPT5 proteins. *Mol. Cell. Biol.* 19: 5960-5968.
- Fong, Y.W. and Zhou, Q. 2000. Relief of two built-in autoinhibitory mechanisms in P-TEFb is required for assembly of a multicomponent transcription elongation complex at the human immunodeficiency virus type 1 promoter. *Mol. Cell. Biol.* 20: 5897-5907.
- Simmons, A., et al. 2001. Nef triggers a transcriptional program in T cells imitating single-signal T cell activation and inducing HIV virulence mediators. *Immunity* 14: 763-777.
- Fong, Y.W. and Zhou, Q. 2002. Stimulatory effect of splicing factors on transcriptional elongation. *Nature* 414: 929-933.

## CHROMOSOMAL LOCATION

Genetic locus: HTATSF1 (human) mapping to Xq26.3; Htatsf1 (mouse) mapping to X A5.

## SOURCE

HIV-1 Tat-SF1 (14) is a mouse monoclonal antibody raised against amino acids 322-437 of HIV-1 Tat-SF1 of human origin.

## PRODUCT

Each vial contains 50 µg IgG<sub>1</sub> in 500 µl PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures. Not for resale.

## APPLICATIONS

HIV-1 Tat-SF1 (14) is recommended for detection of HIV-1 Tat-SF1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for HIV-1 Tat-SF1 siRNA (h): sc-62468, HIV-1 Tat-SF1 siRNA (m): sc-62469, HIV-1 Tat-SF1 shRNA Plasmid (h): sc-62468-SH, HIV-1 Tat-SF1 shRNA Plasmid (m): sc-62469-SH, HIV-1 Tat-SF1 shRNA (h) Lentiviral Particles: sc-62468-V and HIV-1 Tat-SF1 shRNA (m) Lentiviral Particles: sc-62469-V.

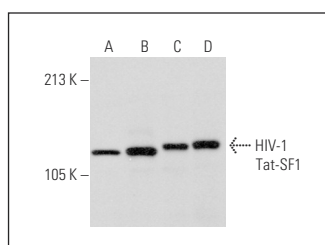
Molecular Weight of HIV-1 Tat-SF1: 140 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, MCF7 whole cell lysate: sc-2206 or KNRK whole cell lysate: sc-2214.

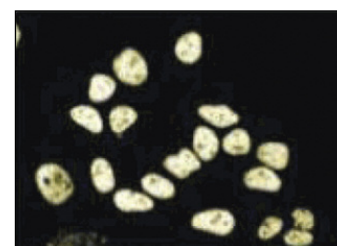
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



HIV-1 Tat-SF1 (14): sc-135938. Western blot analysis of HIV-1 Tat-SF1 expression in Hep G2 (A), MCF7 (B), KNRK (C) and PC-12 (D) whole cell lysates.



HIV-1 Tat-SF1 (14): sc-135938. Immunofluorescence staining of HeLa cells showing nuclear staining.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.