

# HIV-1 Tat-SF1 (S-20): sc-55220

## 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, TFIIIF, 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 motifs (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

- Li, X.Y. and Green, M.R. 1998. The HIV-1 Tat cellular coactivator Tat-SF1 is a general transcription elongation factor. *Genes Dev.* 12: 2992-2996.
- 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.

## CHROMOSOMAL LOCATION

Genetic locus: Htatsf1 (mouse) mapping to X A5.

## SOURCE

HIV-1 Tat-SF1 (S-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of HIV-1 Tat-SF1 of mouse origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-55220 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## PROTOCOLS

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

## APPLICATIONS

HIV-1 Tat-SF1 (S-20) is recommended for detection of HIV-1 Tat-SF1 of mouse and rat 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

HIV-1 Tat-SF1 (S-20) is also recommended for detection of HIV-1 Tat-SF1 in additional species, including canine, bovine and porcine.

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

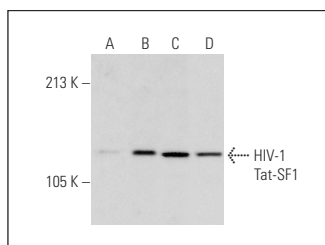
Molecular Weight of HIV-1 Tat-SF1: 140 kDa.

Positive Controls: HIV-1 Tat-SF1 (m): 293T Lysate: sc-120810.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



HIV-1 Tat-SF1 (S-20): sc-55220. Western blot analysis of HIV-1 Tat-SF1 expression in non-transfected 293T: sc-117752 (A), mouse HIV-1 Tat-SF1 transfected 293T: sc-120810 (B), HeLa (C) and MCF7 (D) whole cell lysates.

## RESEARCH USE

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

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Try **HIV-1 Tat-SF1 (C-4): sc-514351**, our highly recommended monoclonal alternative to HIV-1 Tat-SF1 (S-20).