

HIV-1 Tat-SF1 (C-4): sc-514351

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

- 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 RAP30 and human SPT5 proteins. *Mol. Cell. Biol.* 19: 5960-5968.

CHROMOSOMAL LOCATION

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

SOURCE

HIV-1 Tat-SF1 (C-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1-23 at the N-terminus of HIV-1 Tat-SF1 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

HIV-1 Tat-SF1 (C-4) is available conjugated to agarose (sc-514351 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514351 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514351 PE), fluorescein (sc-514351 FITC), Alexa Fluor® 488 (sc-514351 AF488), Alexa Fluor® 546 (sc-514351 AF546), Alexa Fluor® 594 (sc-514351 AF594) or Alexa Fluor® 647 (sc-514351 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514351 AF680) or Alexa Fluor® 790 (sc-514351 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514351 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

HIV-1 Tat-SF1 (C-4) is recommended for detection of HIV-1 Tat-SF1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

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.

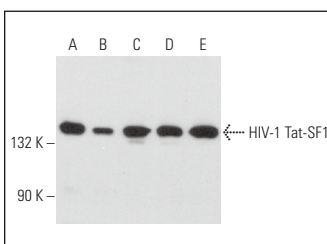
Molecular Weight of HIV-1 Tat-SF1: 140 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

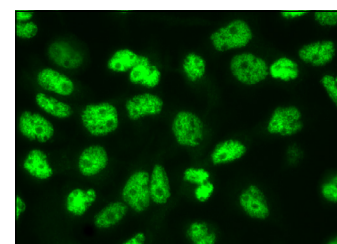
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



HIV-1 Tat-SF1 (C-4): sc-514351. Western blot analysis of HIV-1 Tat-SF1 expression in Jurkat (A), HeLa (B), MCF7 (C), Hep G2 (D) and CCRF-CEM (E) whole cell lysates.



HIV-1 Tat-SF1 (C-4): sc-514351. Immunofluorescence staining of formalin-fixed A-431 cells showing nuclear localization.

SELECT PRODUCT CITATIONS

- Loerch, S., et al. 2019. The pre-mRNA splicing and transcription factor Tat-SF1 is a functional partner of the spliceosome SF3b1 subunit via a U2AF homology motif interface. *J. Biol. Chem.* 294: 2892-2902.

RESEARCH USE

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

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