SANTA CRUZ BIOTECHNOLOGY, INC.

SIV Tat (vG-14): sc-33281

BACKGROUND

Infection by human immunodeficiency virus (HIV) is associated with an early immune dysfunction and progressive destruction of $CD4^+$ T lymphocytes. The HIV-induced, premature destruction of lymphocytes is associated with the continuous production of HIV viral proteins, which modulate apoptotic pathways. The HIV-1 Tat protein is a viral protein essential for activation of the HIV genes and plays a critical role in HIV-induced immunodeficiency. Extracellular Tat has been implicated in the pathogenesis of AIDS and of AIDS-associated pathologies. Tat is associated with chronic immune activation and the continuous induction of apoptotic factors. Tat can also protect HIV-infected cells from apoptosis by increasing anti-apoptotic proteins and down regulating cell surface receptors recognized by immune system cells. Also shown to have neurotoxic activity, Tat is able to promote some proinflammatory functions of microglia. Simian Immunodeficiency Virus (SIV) is also associated with Tat, or SIV Tat, induction. The gene for SIV Tat contains two coding exons, the second of which may be responsible for eliciting cytotoxic T lymphoctye (CTL) response. Tat1-CyclinT1 (CycT1) acts as a cofactor for SIV Tat function, as it does in human Tat. Vaccination with Tat proteins in macaques prior to SIV infection enables enhanced containment of virus replication versus controls, indicating that Tat-based vaccinations may have promise in the development of a vaccine against HIV.

REFERENCES

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2. Kuppuswamy, M., et al. 1989. Multiple functional domains of Tat, the trans-activator of HIV-1, defined by mutational analysis. Nucleic Acids Res. 17: 3551-3561
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4. Baier-Bitterlich, G., et al. 1998. Structure and function of HIV-1 and SIV TAT proteins based on carboxy-terminal truncations, chimeric Tat constructs, and NMR modeling. Biomed. Pharmacother. 52: 421-30.
5. Bieniasz, P.D., et al. 1999. Analysis of the effect of natural sequence variation in Tat and in cyclin T on the formation and RNA binding properties of Tat-cyclin T complexes. J. Virol. 73: 5777-5786.
6. Cafaro, A., et al. 2000. SHIV89.6P pathogenicity in cynomolgus monkeys and control of viral replication and disease onset by human immunodeficiency virus type 1 Tat vaccine. J. Med. Primatol. 29: 193-208.
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SOURCE

SIV Tat (vG-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Tat of Simian Immunodeficincy Virus 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-33281 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SIV Tat (vG-14) is recommended for detection of Tat of SIV origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Molecular Weight of SIV Tat: 13 kDa.

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) 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.

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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.