



HIV-1 TAT Clade-C

Human Immunodeficiency Virus 1 Antigen recombinant, *E. coli*

Cat. No.	Amount
PR-1206	10 µg

For general laboratory use.

Shipping: shipped on gel packs

Storage Conditions: store at -20 °C

Additional Storage Conditions: avoid freeze/thaw cycles

Shelf Life: 12 months

Molecular Weight: 21 kDa

Purity: > 90 % (SDS-PAGE, HPLC)

Form: lyophilised (with no additives)

Solubility: It is recommended to reconstitute the lyophilised HIV-1 TAT in bidest H₂O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

Applications:

Reacts with anti-Tat polyclonal antibodies from human, monkey, rabbit and mouse serum. Recognized by anti-Tat (HIV-1) polyclonal antibody.

Description:

HIV-1 TAT Recombinant- produced in *E. coli* is a single, non-glycosylated, polypeptide chain containing 100 amino acids encoded by two exons and having a molecular mass of 21 kDa. Recombinant HIV-1 TAT is purified by proprietary chromatographic technique.

Background: HIV belongs to the retrovirus family, distinguished by possession of a viral reverse transcriptase that transcribes viral RNA into DNA which is integrated into the host-cell genome. HIV-1 regulatory Trans-Acting Transcription factor (TAT) plays an essential role in viral replication and infectivity. In addition, during acute infection, TAT is released extracellularly by infected cells and is taken up by neighboring cells where it transactivates viral replication and increases virus infectivity. HIV-1 Tat activates transcription of HIV-1 viral genes by inducing phosphorylation of the C-terminal domain (CTD) of RNA polymerase II. Tat can also disturb cellular metabolism by inhibiting proliferation of antigen-specific T lymphocytes and by inducing cellular apoptosis.

Specificity: Immuno reactive with all sera of HIV-I infected individuals.

Selected References:

- Flora *et al.* (2005) Proinflammatory synergism of ethanol and HIV-1 Tat protein in brain tissue. *Exp. Neurol.* **191**:2.
- Partidos *et al.* (2004) A synthetic HIV-1 Tat protein breaches the skin barrier and elicits Tat-neutralizing antibodies and cellular immunity. *Eur. J. Immunol.* **34**:3723.
- Gavioli *et al.* (2004) HIV-1 tat protein modulates the generation of cytotoxic T cell epitopes by modifying proteasome composition and enzymatic activity. *J. Immunol.* **173**:3838.
- Campbell *et al.* (2004) The glutamine-rich region of the HIV-1 Tat protein is involved in T-cell apoptosis. *J. Biol. Chem.* **279**:48197.
- Opi *et al.* (2004) Full-length HIV-1 Tat protein necessary for a vaccine. *Vaccine.* **22**:3105.
- Caputo *et al.* (2004) Novel biocompatible anionic polymeric microspheres for the delivery of the HIV-1 Tat protein for vaccine application. *Vaccine.* **22**:2910.
- Devito *et al.* (2004) Intranasal HIV-1-gp160-DNA/gp41 peptide prime-boost immunization regimen in mice results in long-term HIV-1 neutralizing humoral mucosal and systemic immunity. *J. Immunol.* **173**:7078.
- Hovanessian *et al.* (2004) The caveolin-1 binding domain of HIV-1 glycoprotein gp41 is an efficient B cell epitope vaccine candidate against virus infection. *Immunity.* **21**:617.

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Marin *et al.* (2004) Antigenic activity of three chimeric synthetic peptides of the transmembrane (gp41) and the envelope (gp120) glycoproteins of HIV-1 virus. *Prep. Biochem. Biotechnol.* **34**:227.

Zhang *et al.* (2004) Induction of mucosal and systemic neutralizing antibodies against human immunodeficiency virus type 1 (HIV-1) by oral immunization with bovine Papillomavirus-HIV-1 gp41 chimeric virus-like particles. *J. Virol.* **78**:8342.

Gallo *et al.* (2004) Temperature-dependent intermediates in HIV-1 envelope glycoprotein-mediated fusion revealed by inhibitors that target N- and C-terminal helical regions of HIV-1 gp41. *Biochemistry* **43**:8230.

Doetsch *et al.* (2011) The RNA annealing mechanism of the HIV-1 Tat peptide: conversion of the RNA into an annealing-competent conformation. *Nucleic Acids Research* **39** (10):4405.