HIV-1 tat, 48-60 Peptide - 000-001-M49

Code: 000-001-M49 **Size:** 1 mg

Product Description: HIV-1 tat, 48-60 Peptide - 000-001-M49

Concentration: 1.0 mg/mL by dry weight

PhysicalState: Lyophilized

Buffer	None
Reconstitution Volume	1.0 mL
Reconstitution Buffer	Restore with deionized water (or equivalent)
Storage Condition	Store vial at 2 - 8 ° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. Dilute only prior to immediate use.
Synonyms	Protein Tat, Transactivating regulatory protein, Human immunodeficiency virus type 1 (HIV-1), control peptide, blocking peptide
Application Note	HIV-1 tat, 48-60 Control Peptide is suitable for use in ELISA, Western Blot, Dot blot, PCA, and other assays. Control peptide should be used at 1.0 µg per 1.0 µl of antiserum in per assay. Specific conditions for reactivity should be optimized by the end user.
Background	Translocation through the plasma membrane has been shown to be a major limiting step for the delivery of various macromolecules to the cytoplasm and other intracellular compartments (e.g., mitochondria, nucleus). Numerous studies have confirmed that specific peptide sequences known as cell penetrating peptides (CPP) derived from proteins able to cross the plasma membrane, can be added to various cargo and delivered across cell membranes. The cargo molecules that have been successfully transported into cells includes oligonucleotides, peptides, peptide nucleic acids, proteins and nanoparticles. One of these translocating peptides was derived from the HIV-1 Tat protein, specifically located within the first exon of the HIV tat protein. The specific HIV tat sequence is highly basic (cationic) and is readily added to peptides either as a preformed peptide with a site for direct conjugation to other molecules (typically a cysteine). Addition of the tat-cargo complex (5-50 uM concentration) to cells for 30-60 minutes results in the transfer of the tat-cargo complex to intracellular locations in a rapid, dose-dependent manner. The addition of nuclear or mitochondrial localization sequences has been shown to specifically direct the cargo to the nucleus or mitochondria respectively.
Purity And Specificity	Greater than 95% specific peptide.
Assay Dilutions	Control peptide should be used at 1.0 µg per 1.0 µl of antiserum per assay.
Other Assays	Control peptide should be used at 1.0 µg per 1.0 µl of antiserum per assay.
Expiration	Expiration date is one (1) year from date of opening.
General Reference	Vivès E, Brodin P, Lebleu B. A truncated HIV-1 Tat protein basic domain rapidly translocates through the plasma membrane and accumulates in the cell nucleus. J Biol Chem. 1997 Jun 20;272(25):16010-7. Silhol M, Tyagi M, Giacca M, Lebleu B, Vivès E. Eur J Biochem. Different mechanisms for cellular internalization of the HIV-1 Tat-derived cell penetrating peptide and recombinant proteins fused to Tat. 2002 Jan;269(2):494-501. Wadia JS, Dowdy SF. Transmembrane delivery of protein and peptide drugs by TAT-mediated transduction in the treatment of cancer. Adv Drug Deliv Rev. 2005 Feb 28;57(4):579-96. Brooks H, Lebleu B, Vivès E. Tat peptide-mediated cellular delivery: back to basics. Adv Drug Deliv Rev. 2005 Feb 28;57(4):559-77.

Related Products

611-1302	Anti-RABBIT IgG (H&L) (GOAT) Antibody Peroxidase Conjugated - 611-1302
BSA-30	BOVINE SERUM ALBUMIN 30% Solution - BSA-30
MB-070	Blocking Buffer for Fluorescent Western Blotting - MB-070

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