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HIV-1 TAT Protein Peptide
Synthetic Peptide
Catalog # SP3351b

Specification

HIV-1 TAT Protein Peptide - Product Information

Primary Accession	P04612
Other Accession	P04610, P69697, P04608, P04326, P04609
Sequence	**NH2-YGRKKRRQRRR-COOH**

HIV-1 TAT Protein Peptide - Additional Information

Other Names
Protein Tat, Transactivating regulatory protein, TAT

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

HIV-1 TAT Protein Peptide - Protein Information

Name TAT

Function
Transcriptional activator that increases RNA Pol II processivity, thereby increasing the level of full-length viral transcripts. Recognizes a hairpin structure at the 5'-LTR of the nascent viral mRNAs referred to as the transactivation responsive RNA element (TAR) and recruits the cyclin T1-CDK9 complex (P-TEFb complex) that will in turn hyperphosphorylate the RNA polymerase II to allow efficient elongation. The CDK9 component of P-TEFb and other Tat- activated kinases hyperphosphorylate the C-terminus of RNA Pol II that becomes stabilized and much more processive. Other factors such as HTATSF1/Tat-SF1, SUPT5H/SPT5, and HTATIP2 are also important for Tat's function. Besides its effect on RNA Pol II processivity, Tat induces chromatin remodeling of proviral genes by recruiting the histone acetyltransferases (HATs) CREBBP, EP300 and PCAF to the chromatin. This also contributes to the increase in proviral transcription rate, especially when the provirus integrates in transcriptionally silent region of the host genome. To ensure maximal activation of the LTR, Tat mediates nuclear translocation of NF-kappa-B by interacting with host RELA. Through its interaction with host TBP, Tat may also modulate transcription initiation. Tat can reactivate a latently infected cell by penetrating in it and transactivating its LTR promoter. In the cytoplasm, Tat is thought to act as a translational activator of HIV-1 mRNAs.

Cellular Location
Host nucleus, host nucleolus. Host cytoplasm. Secreted. Note=Probably localizes to both nuclear

and nucleolar compartments. Nuclear localization is mediated through the interaction of the nuclear localization signal with importin KPNB1. Secretion occurs through a Golgi-independent pathway. Tat is released from infected cells to the extracellular space where it remains associated to the cell membrane, or is secreted into the cerebrospinal fluid and sera. Extracellular Tat can be endocytosed by surrounding uninfected cells via binding to several receptors depending on the cell type (By similarity).

HIV-1 TAT Protein Peptide - Images