



LKT Laboratories, Inc.

Transactivator of Transcription Peptide

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Product Information

Product ID T0076

CAS No.

Chemical Name

Synonym TAT, TAT peptide, HIV-1 TAT Protein Peptide, YGRKKRRQRRR

Formula $C_{64}H_{119}N_{33}O_{13}$

Formula Wt. 1558.88

Melting Point

Purity $\geq 95\%$

Solubility Soluble in water.

Store Temp $-20^{\circ}C$

Ship Temp Ambient

Description Transactivator of transcription (TAT) protein is produced by HIV-1 and is involved in the induction of HIV-associated neurologic disorders (HAND). TAT is a neurotoxin that infects neurons, which HIV itself is unable to do. In neurons, TAT increases the number of inhibitory synapses and decreases the number of excitatory synapses in a Ca^{2+} -dependent manner. TAT also activates microglia and other myeloid cells, disrupting cytokine/chemokine homeostasis and inducing neuroinflammation. This peptide sequence (YGRKKRRQRRR) represents the protein transduction (cell-penetrating) domain of TAT.

H-Tyr-Gly-Arg-Lys-Lys-Arg-Arg-Gln-Arg-Arg-NH₂

Pricing and Availability

Bulk quantities available upon request

Product ID	Size	List Price
T0076	0.5 mg	\$113.20
T0076	1 mg	\$192.20
T0076	2.5 mg	\$340.20

References Hargus NJ, Thayer SA. Human immunodeficiency virus-1 Tat protein increases the number of inhibitory synapses between hippocampal neurons in culture. *J Neurosci.* 2013 Nov 6;33(45):17908-20. PMID: 24198379.

Bethel-Brown C, Yao H, Callen S, et al. HIV-1 Tat-mediated induction of platelet-derived growth factor in astrocytes: role of early growth response gene 1. *J Immunol.* 2011 Apr 1;186(7):4119-29. PMID: 21368226.

Lu SM, Tremblay MÈ, King IL, et al. HIV-1 Tat-induced microgliosis and synaptic damage via interactions between peripheral and central myeloid cells. *PLoS One.* 2011;6(9):e23915. PMID: 21912650.

Caution: This product is intended for laboratory and research use only. It is not for human or drug use.