PRODUCT INFORMATION

Tat-Beclin 1 (acetate)

Item No. 35838

Formal Name: L-tyrosylglycyl-L-arginyl-L-lysyl-L-lysyl-L-arginyl-L-arginyl-L-glutaminyl-L-arginyl-L-arginyl-L-arginylglycylglycyl-L-threonyl-L-asparaginyl-L-valyl-L-phenylalanyl-L-asparaginyl-L-alanyl-L-threonyl-L-phenylalanyl-L-α-glutamyl-L-isoleucyl-L-tryptophyl-L-histidyl-L-α-aspartylglycyl-L-α-glutamyl-L-phenylalanylglycyl-L-threonine, acetate

Synonym: Tat-BECN1

Peptide Sequence: H-YGRKKRRQRRRGGTNVFNATFEIWHDGEFGT-OH

MF: $C_{164}H_{251}N_{57}O_{45} \bullet XC_2H_4O_2$

FW: 3,741.1

Purity: ≥98%

Supplied as: A solid

Storage: -20°C

Stability: ≥4 years

H – Tyr – Gly – Arg – Lys – Lys – Arg – Arg – Gln – Arg – Arg – Arg – Gly – Gly – Thr – Asn – Val – Phe – Asn – Ala – Thr – Phe – Glu – Ile – Trp – His – Asp – Gly – Glu – Phe – Gly – Thr – OH • XCH_3CO_2H

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Tat-Beclin 1 (acetate) is supplied as a solid. Aqueous solutions of tat-beclin 1 (acetate) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of tat-beclin 1 (acetate) in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Tat-beclin 1 is an autophagy-inducing peptide.[1] It is composed of the HIV-1 Tat protein transduction domain linked *via* a diglycine linker to an 18-amino acid peptide corresponding to residues 267-284 of beclin-1 with amino acid substitutions at positions 275, 279, and 281 to enhance hydrophobicity. Tat-beclin 1 (30 µM) binds to the beclin-1-interacting protein Golgi-associated plant pathogenesis-related protein 1 (GAPR-1) in HeLa cells and induces conversion of LC3-I to LC3-II *via* lipidation and autophagosome formation in MCF-7 cells. It decreases viral titers in HeLa cells infected with Sindbis virus, chikungunya, or West Nile virus when used at a concentration of 10 µM. Tat-beclin 1 (0.5-5 µM) inhibits HIV p24 antigen release and viral replication in primary human monocyte-derived macrophages (MDMs). *In vivo*, Tat-beclin 1 (14 mg/kg) reduces intramuscular viral titers, neonatal mortality, and paralysis and increases muscle cell autophagosome formation in chikungunya-infected neonatal mice.

Reference

1. Shoji-Kawata, S., Sumpter, R., Jr., Leveno, M., *et al.* Identification of a candidate therapeutic autophagy-inducing peptide. *Nature* **494,** 201-206 (2013).

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