Tat-beclin 1

Catalog No.C13526 Batch:C1352603

Product Datasheet

Technical Data

Formula	$C_{164}H_{251}N_{57}O_{45}$					
Molecular Weight	3741.1	**CAS No.**	1423821-88-8			
Solubility (25°C)*	In vitro	Water	100 mg/mL (26.73 mM)			
	In vivo (Add solvents to the product individually and in order)	Injection	Clear solution	5% H2O [1] → 40% PEG 300 [2] → 5% Tween 80 [3] → ddH2O Validated by Capsid Bio labs. Should you need adjustments to this formulation, contact our sales team for custom testing.	5.000mg/ml (1.34mM)	Taking the 1 mL working solution as an example, add 50 μL of 100 mg/ml clarified H2O stock solution to 400 μL of PEG 300, mix evenly to clarify; add 50 μL of Tween 80 to the above system, mix evenly to clarify; Then continue to add 500 μL ddH2O to adjust the volume to 1 mL. The mixed solution should be used immediately for optimal results.

* <1 mg/ml means slightly soluble or insoluble.
* Please note that Capsid Bio tests the solubility of all compounds in-house, and the actual solubility may differ slightly from published values. This is normal and is due to slight batch-to-batch variations.
* Room temperature shipping (Stability testing shows this product can be shipped at 2-8°C for storage purposes.)

Preparing Stock Solutions

Volume / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	0.2673 mL	1.3365 mL	2.6730 mL
5 mM	0.0535 mL	0.2673 mL	0.5346 mL
10 mM	0.0267 mL	0.1337 mL	0.2673 mL
50 mM	-	-	-

Biological Activity

Description	Tat-beclin 1 (Tat-BECN1), a peptide known to stimulate **autophagy** through mobilization of endogenous **Beclin 1**, induces autophagy in vitro and in vivo and improves clinical outcomes.
Targets	Beclin 1 [1]
In vitro	Tat-beclin 1 (Tat-BECN1) is a cell-permeable peptide that induces autophagy. Treatment with this compound, but not Tat-scrambled, results in a dose-dependent decrease in amounts of p62, a selective autophagy substrate, and a dose-dependent conversion of the non-lipidated form of LC3, LC3-I, to the lipidated, autophagosome-associated form of LC3, LC3-II, in multiple cell lines and primary murine embryonic fibroblasts (MEFs). It markedly inhibits HIV-1 replication in primary human monocyte-derived macrophages[1].
In vivo	Tat-beclin 1 (Tat-BECN1) can induce autophagy in peripheral tissues in adult mice as well as in the central nervous system of neonatal mice. Daily treatment with this compound is well-tolerated in both neonatal and adult mice, and it improves the clinical outcome of mice with CNS WNV(West Nile virus) infection[1].

Protocol (from reference)

Cell Assay:[1]

- **Cell lines**
  human MDMs
- **Concentrations**
  0.5–5 μM
- **Incubation Time**
  24 h
- **Method**
  For treatment of primary human MDMs, cells are washed with PBS and pre-treated with Tat-beclin 1 (Tat-BECN1) (0.5-5 μM, 24 h) in 500 μl macrophage-SFM (serum-free media) before infection with HIV-1.

Animal Study:[1]

- **Animal Models**
  C57BL/6J mice
- **Dosages**
  15 mg/kg
- **Administration**
  i.p.

References

https://pubmed.ncbi.nlm.nih.gov/23364696/

RETURN POLICY

Capsid Bio's Unconditional Return Policy ensures a smooth online shopping experience for our customers. If you are in any way unsatisfied with your purchase, you may return any item(s) within 7 days of receiving it. In the event of product quality issues, either protocol related or product related problems, you may return any item(s) within 365 days from the original purchase date. Please follow the instructions below when returning products.

SHIPPING & STORAGE

Capsid Bio products are transported at room temperature. If you receive the product at room temperature, please rest assured, the Capsid Bio Quality Inspection Department has conducted experiments to verify that the normal temperature placement of one month will not affect the biological activity of powder products. After collecting, please store the product according to the requirements described in the datasheet. Most Capsid Bio products are stable under the recommended conditions.

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