

PRODUCT INFORMATION



Bafilomycin A₁ (solution)

Item No. 46024

CAS Registry No.: 88899-55-2
Formal Name: (3Z,5E,7R,8S,9S,11E,13E,15S,16R)-8-hydroxy-16-[(1S,2R,3S)-2-hydroxy-1-methyl-3-[(2R,4R,5S,6R)-tetrahydro-2,4-dihydroxy-5-methyl-6-(1-methylethyl)2H-pyran-2-yl]butyl]-3,15-dimethoxy-5,7,9,11-tetramethyloxacyclohexadeca-3,5,11,13-tetraen-2-one
Synonym: NSC 381866

MF: C₃₅H₅₈O₉

FW: 622.8

Purity: ≥95%

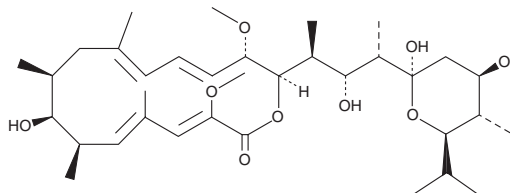
Supplied as: A 0.1 mM solution in DMSO

Storage: -20°C

Stability: ≥2 years

Item Origin: Bacteria/*Streptomyces* sp.

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



Laboratory Procedures

Bafilomycin A₁ (solution) is supplied as a solution in DMSO. To change the solvent, simply evaporate the DMSO under a gentle stream of nitrogen and immediately add the solvent of choice. The solubility of bafilomycin A₁ (solution) is sparingly soluble (1-10 mg/ml) in methanol.

Description

Bafilomycin A₁ is a bacterial metabolite that has been found in *Streptomyces* and has diverse biological activities.¹⁻⁵ It is an inhibitor of vacuolar H⁺-ATPases (V-ATPases; K_i = 0.5 nM in *N. crassa* vacuolar membranes) and is greater than 1,000-fold selective for V-ATPases over Na⁺/K⁺, Ca²⁺, and H⁺-ATPases.^{1,4} Bafilomycin A₁ (100 nM) inhibits autophagosome maturation and protein degradation in H-4-II-E cells.² It inhibits chloroquine-induced apoptosis in primary cerebellar granule neurons (CGNs) but not chloroquine-induced inhibition of macroautophagy.³ Bafilomycin A₁ (100 nM) reduces viral yield in the culture supernatant of Vero E6 and Huh7 cells, as well as HEK293T cells expressing human angiotensin-converting enzyme 2 (ACE2), infected with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).⁵ It also reduces lung RNA copy numbers and viral pneumonia in ACE2 transgenic mice infected with SARS-CoV-2 when administered at a dose of 0.1 mg/kg. This product is ready to use as supplied and is intended for cell culture applications.

References

- Ohvo-Rekilä, H., Ramstedt, B., Leppimäki, P., *et al.* Cholesterol interactions with phospholipids in membranes. *Prog. Lipid Res.* **41(1)**, 66-97 (2002).
- Tenchov, R., Bird, R., Curtze, A.E., *et al.* Lipid nanoparticles-from liposomes to mRNA vaccine delivery, a landscape of research diversity and advancement. *ACS Nano* **15(11)**, 16982-17015 (2021).
- Yamanashi, Y., Takada, T., and Suzuki, H. Associations between lifestyle-related diseases and transporters involved in intestinal absorption and biliary excretion of cholesterol. *Biol. Pharm. Bull.* **41(1)**, 1-10 (2018).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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