

Product Name: Bafilomycin A1

Catalog No.: 1334

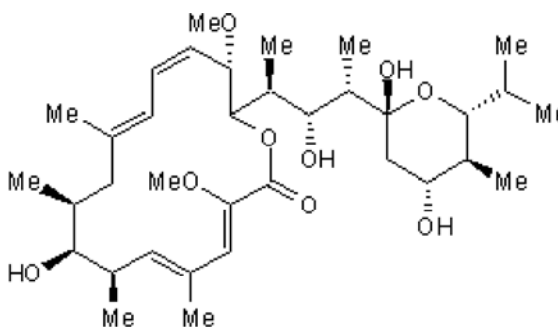
Batch No.: 16

CAS Number: 88899-55-2

IUPAC Name: (3*Z*,5*E*,7*R*,8*S*,9*S*,11*E*,13*E*,15*S*,16*R*)-8-Hydroxy-16-[(1*S*,2*R*,3*S*)-2-hydroxy-1-methyl-3-[(2*R*,4*R*,5*S*,6*R*)-tetrahydro-2,4-dihydroxy-5-methyl-6-(1-methylethyl)-2*H*-pyran-2-yl]butyl]-3,15-dimethoxy-5,7,9,11-tetramethoxycyclohexadeca-3,5,11,13-tetraen-2-one

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₃₅H₅₈O₉
Batch Molecular Weight: 622.84
Physical Appearance: White lyophilised solid
Solubility: DMSO to 5 mg/ml
Storage: Desiccate at -20°C
Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.5% purity

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

bio-techne.com

info@bio-techne.com

techsupport@bio-techne.com

North America

Tel: (800) 343 7475

China

info.cn@bio-techne.com

Tel: +86 (21) 52380373

Europe Middle East Africa

Tel: +44 (0)1235 529449

Rest of World

www.tocris.com/distributors

Tel: +1 612 379 2956

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Catalog No.: 1334

Batch No.: 16

CAS Number: 88899-55-2

IUPAC 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-tetramethylxacyclohexadeca-3,5,11,13-tetraen-2-one

Description:

Highly potent, selective inhibitor of vacuolar H⁺-ATPases (IC₅₀ = 0.6 - 1.5 nM in bovine chromaffin granules). Selective for v-ATPase over other ATP hydrolyzing enzymes such as F-ATPases and the H⁺/K⁺-ATPase (P-ATPase). Thought to inhibit autophagy either by blocking autophagosome-lysosome fusion (in H4IIE cells), or by blocking lysosomal degradation.

Physical and Chemical Properties:

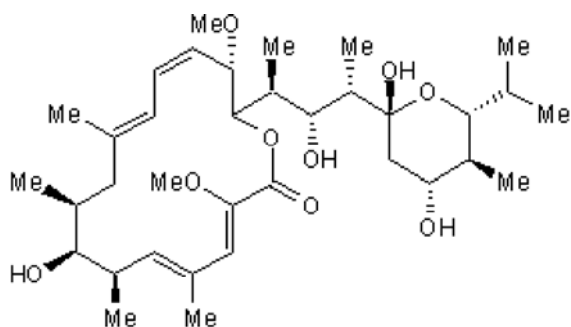
Batch Molecular Formula: C₃₅H₅₈O₉

Batch Molecular Weight: 622.84

Physical Appearance: White lyophilized solid

Minimum Purity: ≥98%

Batch Molecular Structure:



References:

Fass et al (2006) Microtubules support production of starvation-induced autophagosomes but not their targeting and fusion with lysosomes. *J.Biol.Chem.* **281** 36303. PMID: 16963441.

Gagliardi et al (1999) Chemistry and sturcture activity relationships of bafilomycin A₁, a potent and selective inhibitor of the vacuolar H⁺-ATPase. *Curr.Med.Chem.* **6** 1197. PMID: 10519916.

Yamamoto et al (1998) Bafilomycin A1 prevents maturation of autophagic vacuoles by inhibiting fusion between autophagosomes and lysosomes in rat hepatoma cell line, H-4-II-E cells. *Cell Struct.Funct.* **23** 33. PMID: 9639028.

Storage: Desiccate at -20°C

Solubility & Usage Info:

DMSO to 5 mg/ml

Avoid freeze-thaw cycles of this product; it is recommended that aliquots of stock solutions be thawed only once, immediately before use. Huss *et al* (2005) Archazolid and apicularen: Novel specific V-ATPase inhibitors. *BMC Biochemistry* 6 13. This product is supplied as a lyophilized solid and may be very hard to visualize. Solutions should be made by adding solvent directly to the vial. The vial should then be vortexed vigorously to ensure the product has completely dissolved.

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

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