

Hello Bio, Inc.  
304 Wall St., Princeton, NJ 08540 USA

T. 609-683-7500  
F. 609-228-4994

customercare-usa@hellobio.com



## DATASHEET

### Bafilomycin A1

#### Product overview

<b>Name</b>	Bafilomycin A1
<b>Cat No</b>	HB1125
<b>Purity</b>	>98%
<b>Description</b>	Highly potent, selective V-ATPase inhibitor. Autophagy inhibitor.

#### Biological Data

<b>Biological description</b>	Highly potent and selective vacuolar-type proton translocating ATPase (V-ATPase) inhibitor (IC <sub>50</sub> = 50 pM for chromaffin granule membranes).  Displays neuroprotective, pro-apoptotic and antibiotic properties.  Inhibits autophagy by targeting lysosomes. Increases LC3-II by inhibiting its degradation.  Recently investigated as part of COVID-19 compound repurposing.
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#### Solubility & Handling

<b>Storage instructions</b>	-20 °C
<b>Solubility overview</b>	Soluble in DMSO (100 mM)
<b>Handling</b>	Avoid freeze-thaw cycles. Aliquots of stock solutions should only be thawed once, immediately before use
<b>Important</b>	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use.

#### Chemical Data

<b>Chemical name</b>	(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
<b>Molecular Weight</b>	622.84
<b>Chemical structure</b>	
<b>Molecular Formula</b>	C <sub>35</sub> H <sub>58</sub> O <sub>9</sub>
<b>CAS Number</b>	88899-55-2
<b>PubChem identifier</b>	6436223
<b>SMILES</b>	<chem>C[C@H]1C/C(=C/C=C/[C@@H]([C@H](OC(=O)/C(=C/C(=C/[C@H]([C@H]1O)C)/C)/OC)[C@@H](C)[C@H]([C@H](C)[C@]2[C[C@H]([C@@H]([C@H](O2)C(C)C)O)O)OC)/C</chem>
<b>InChiKey</b>	XDHNQDDQEHDUTM-JQWOJBOSA-N
<b>MDL number</b>	MFCD06795130
<b>Appearance</b>	White to off-white

#### References

**Bafilomycin A1 prevents maturation of autophagic vacuoles by inhibiting fusion between autophagosomes and lysosomes in rat hepatoma cell line, H-4-II-E cells.**

Yamamoto A *et al* (1998) *Cell Struct Funct* 23(1)

**PubMedID** [9639028](#)

**Bafilomycin A1 inhibits chloroquine-induced death of cerebellar granule neurons.**

Shacka JJ *et al* (2006) *Mol Pharmacol* 69(4)

**PubMedID** [16391239](#)

**Bafilomycins: a class of inhibitors of membrane ATPases from microorganisms, animal cells, and plant cells.**

Bowman EJ *et al* (1988) *Proc Natl Acad Sci U S A* 85(21)

**PubMedID** [2973058](#)

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