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DATASHEET

Bafilomycin A1

Product overview

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

Biological Data

Biological description	Highly potent and selective vacuolar-type proton translocating ATPase (V-ATPase) inhibitor ($IC_{50} = 50$ 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

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

Chemical Data

Chemical 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
Molecular Weight	622.84
Chemical structure	
Molecular Formula	$C_{35}H_{58}O_9$
CAS Number	88899-55-2
PubChem identifier	6436223
SMILES	<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>
InChiKey	XDHNQDDQEHDUTM-JQWOJBOSA-N
MDL number	MFCD06795130
Appearance	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](#)
