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-20°C

Bafilomycin A1

#54645

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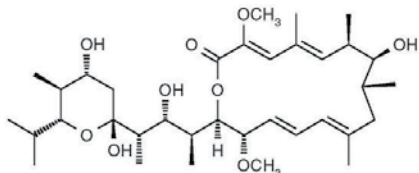
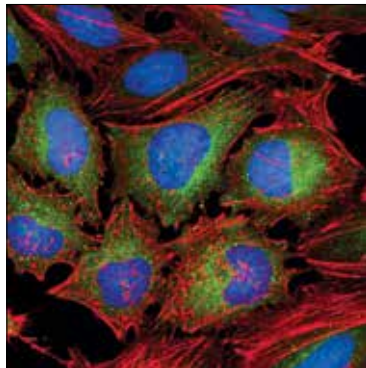
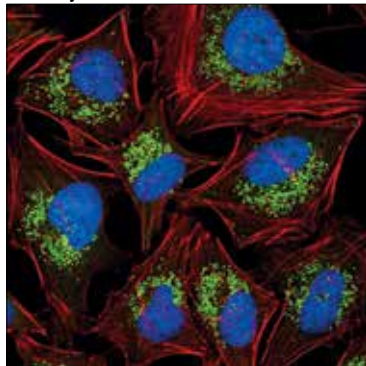
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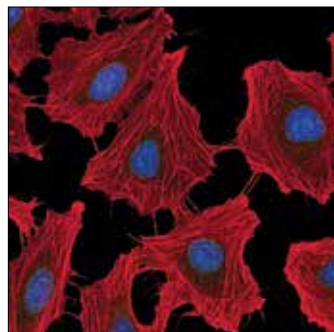
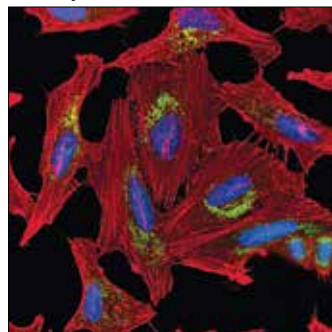
Background: Isolated from *Streptomyces griseus*, bafilomycin A1 is a macrolide antibiotic that reversibly inhibits late phase autophagy (1,2). By inhibiting H⁺-ATPase, bafilomycin A1 prevents re-acidification of synaptic vesicles following exocytosis and thereby blocks fusion of autophagosomes and lysosomes (2-5). Research studies demonstrate that bafilomycin A1 can also inhibit cell proliferation (4).

Background References:

- (1) Werner, G. et al. (1984) *J Antibiot (Tokyo)* 37, 110-7.
- (2) Yoshimori, T. et al. (1991) *J Biol Chem* 266, 17707-12.
- (3) Bowman, E.J. et al. (1988) *Proc Natl Acad Sci U S A* 85, 7972-6.
- (4) Ohkuma, S. et al. (1993) *In Vitro Cell Dev Biol Anim* 29A, 862-6.
- (5) Yamamoto, A. et al. (1998) *Cell Struct Funct* 23, 33-42.

Molecular Formula: C₃₅H₅₈O₉**Molecular Weight:** 622.83 g/mol**Solubility:** Soluble in DMSO at 200 mg/ml; very poorly soluble in water.**Purity:** >98%**Untreated****Bafilomycin A-treated**

Confocal immunofluorescent analysis of HeLa cells, untreated (upper) or treated with Bafilomycin A1 (100 nM, 18 hr; lower), using SQSTM1/p62 (D10E10) Rabbit mAb (IF Preferred) #7695 (green). Actin filaments were labeled with DyLight™ 554 Phalloidin #13054. Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

Untreated**Bafilomycin A-treated**

◀ Confocal immunofluorescent analysis of HeLa cells, untreated (left) or treated with Bafilomycin A1 (200 nM, 18 hr; right), using NBR1 (D2E6) Rabbit mAb #9891 (green) and β-Actin (8H10D10) Mouse mAb #3700 (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

Storage: Store lyophilized or in solution at -20°C, desiccated. Protect from light. In lyophilized form, the chemical is stable for 24 months. Once in solution, use within 3 months to prevent loss of potency. Aliquot to avoid multiple freeze/thaw cycles.

Directions for Use: Bafilomycin A1 is supplied as a lyophilized powder. For a 1 mM stock, reconstitute the 100 μg in 160.56 μl DMSO. Working concentrations and length of treatment can vary depending on the desired effect, but it is typically used at 10 nM-1 μM for 18 hr.

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Applications: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide **Species Cross-Reactivity:** H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected *Species enclosed in parentheses are predicted to react based on 100% homology.*