Web: www.taiclone.com
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Brefeldin A

Catalog No: tcsc3783

Available Sizes

Size: 5mg

Size: 10mg

Size: 50mg

Size: 100mg

Specifications

CAS No:
20350-15-6

Formula:
$C_{16}H_{24}O_4$

Pathway:
Anti-infection; Autophagy; Cell Cycle/DNA Damage

Target:
Antibiotic; Autophagy; Bacterial; CRISPR/Cas9; HSV; Mitophagy

Form:
White to off-white (Solid)

Purity / Grade:
99.10%

Solubility:
DMSO : 100 mg/mL (356.68 mM; Need ultrasonic);
Ethanol :11.11 mg/mL (39.63 mM; Need ultrasonic)

Alternative Names:
BFA;Cyanein;Decumbin; 4H-Cyclopent[f]oxacyclotridecin-4-one,1,6,7,8,9,11a,12,13,14,14a-decahydro-1,13-

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dihydroxy-6-methyl-,(1R,2E,6S,10E,11aS,13S,14aR)-

Observed Molecular Weight:
280.36

References

[1]. Alvarez C, et al. Brefeldin A (BFA) disrupts the organization of the microtubule and the actin cytoskeletons. Eur J Cell Biol. 1999 Jan;78(1):1-14. [2]. Colanzi A, et al. Molecular mechanism and functional role of brefeldin A-mediated ADP-ribosylation of CtBP1/BARS. Proc Natl Acad Sci U S A. 2013 Jun 11;110(24):9794-9. [3]. Tseng CN, et al. Brefeldin A reduces anchorage-independent survival, cancer stem cell potential and migration of MDA-MB-231 human breast cancer cells. Molecules. 2014 Oct 29;19(11):17464-77. [4]. Wang J, et al. Erythroleukemia cells acquire an alternative mitophagy capability. Sci Rep. 2016 Apr 19;6:24641. [5]. Yu C, et al. Small molecules enhance CRISPR genome editing in pluripotent stem cells. Cell Stem Cell. 2015 Feb 5;16(2):142-7. [6]. Nozawa N, et al. Subcellular localization of herpes simplex virus type 1 UL51 protein and role of palmitoylation in Golgi apparatus targeting. J Virol. 2003 Mar;77(5):3204-16. [7]. Jensen HL, Rygaard J, Norrild B. A time-related study of Brefeldin A effects in HSV-1 infected cultured human fibroblasts. APMIS. 1995;103(7-8):530- 539. doi:10.1111/j.1699-0463.1995.tb01402.x

Product Description

Brefeldin A is a specific inhibitor of **protein trafficking** which blocks the protein transport from the endoplasmic reticulum to the Golgi complex.

IC50 & Target: Autophagy[4], CRISPR/Cas9[5]

In Vitro: Brefeldin A treatment for 15 h or 40 h, causes dramatic swelling of the Endoplasmic Reticulum (ER) and shifts its localization to the periphery of normal rat kidney (NRK) cells. Prolonged Brefeldin A treatment results in marked disruption of the MT and actin cytoskeleton[1]. ADP-ribosylation of BARS is mediated by formation of a conjugate between Brefeldin A and ADPR. BARS shows BAC binding when incubated with the medium from the BFA-treated $CD38^+$ HeLa cells[2]. Brefeldin A induces anchorage-independent cell death in MDA-MB-231 breast cancer cells, inhibits the formation of MDA-MB-231 colonies in 3D and 2D cultures and inhibits the migration and MMP 9 (Matrix Metallopeptidase 9) activity of MDA-MB-231[3].