

Brefeldin A

✓ 5 mg

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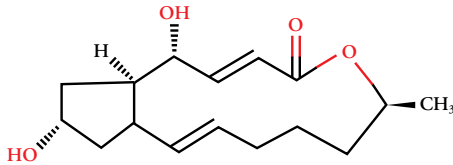
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For Research Use Only. Not For Use In Diagnostic Procedures.

Background: Brefeldin A (BFA) is a fungal metabolite demonstrated to reversibly interfere with anterograde transport from the endoplasmic reticulum to the Golgi apparatus (1,2). While initially isolated as an antibiotic (3), and does have a wide range of antibiotic activity, it is primarily used as a biological research tool for studying protein transport. Treatment leads to a rapid accumulation of proteins within the ER and collapse of the Golgi stacks. Treatment with BFA can also inhibit protein secretion (4) and prolonged exposure can induce apoptosis (5). The main target of BFA appears to be ADP-ribosylation factor (ARF), which is responsible for association of coat protein to the Golgi membrane (6,7).

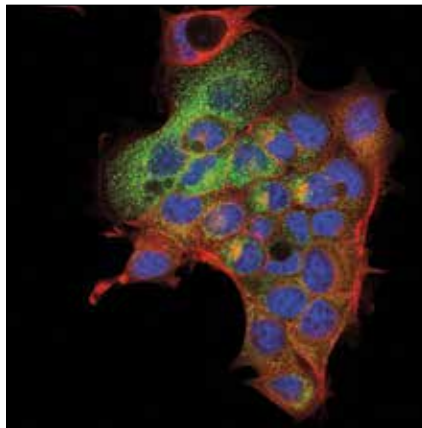
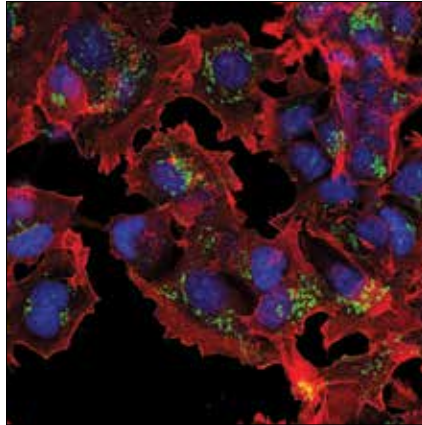
Molecular Formula: C₁₆H₂₄O₄



Molecular Weight: 280.4 g/mol

Background References:

- (1) Klausner, R.D. et al. (1992) *J Cell Biol* 116, 1071–80.
- (2) Pelham, H.R. (1991) *Cell* 67, 449–51.
- (3) Tamura, G. et al. (1968) *J Antibiot (Tokyo)* 21, 160–1.
- (4) Misumi, Y. et al. (1986) *J Biol Chem* 261, 11398–403.
- (5) Shao, R.G. et al. (1996) *Exp Cell Res* 227, 190–6.
- (6) Helms, J.B. and Rothman, J.E. (1992) *Nature* 360, 352–4.
- (7) Randazzo, P.A. et al. (1993) *J Biol Chem* 268, 9555–63.



Confocal immunofluorescent analysis of MCF-7 cells, untreated (upper) or treated with Brefeldin A for 1.5 hours at 20 µg/ml (lower), using RCAS1 (D2B6N) XP Rabbit mAb #12290 (green). Actin filaments were labeled with DyLight™ 554 phalloidin #13054 (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

Storage: Store lyophilized or in solution at -20°C, desiccated. 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: Brefeldin A is supplied as a 5 mg powder. Store at -20°C. Brefeldin A is soluble in DMSO (also ethanol and methanol) and stock solutions (typically 10 mg/ml) should be stored at -20°C. Working concentrations and length of treatment can vary depending on desired effect. Inhibition of ER to Golgi trafficking was observed as low as 100 ng/ml and apoptosis was observed with prolonged treatment at 10 µg/ml.

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