

Molecular Formula:

$C_{16}H_{24}O_4$

Molecular Weight:

280.4 g/mol

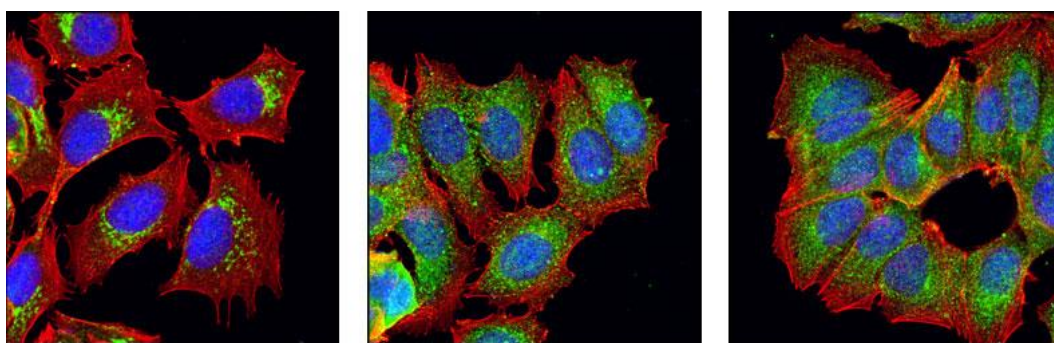
Purity:

>99%

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.

IF-IC



Confocal immunofluorescent analysis of MCF-7 cells, untreated (left) or treated with Brefeldin A for 1.5 hours at 100 ng/ml (middle) or 20 µg/ml (right), using a Golgin-97 antibody (green). Actin filaments have been labeled with DY-554 phalloidin (red). Blue pseudocolor = DRAQ5™ (fluorescent DNA dye).

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).

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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.