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DATASHEET Brefeldin A (BFA)

Product overview

Name	Brefeldin A (BFA)
Cat No	HB2949
Alternative names	BFA, Synergisidin, Nectrolide, Decumbin, Cyanein
Biological action	Inhibitor
Purity	>98%
Description	Reversible protein transport inhibitor. Commonly used in cytokine staining. Enhances CRISPR- mediated HDR.

Biological Data

Biological description

Brefeldin A is a reversible inhibitor of protein transport.

Following treatment with Brefeldin A, the Golgi complex disassembles and redistributes into the endoplasmic reticulum within minutes. Brefeldin A is a potent, rapid and reversible inhibitor of secretion.

Brefeldin A inhibits the GTPase exchange factor acting on the ARF protein. ARF activates ADPribosylation factors to the golgi complex.

<u>Uses</u>

Brefeldin A is widely used in studies of membrane trafficking. It increases intracellular cytokine staining signals and is commonly used for intracellular staining of cytokines for flow cytometry. It blocks transport processes during cell activation and causes an accumulation of cytokines at the golgi complex/ endoplasmic reticulum.

Brefeldin A also shows antibiotic actions and induces apoptosis and autophagy in mammalian cells. Recently, it has been shown to enhance CRISPR-mediated homology-directed repair (HDR) in hiPSCs (human induced pluripotent stem cells).

Monensin sodium salt also available

Solubility & Handling

 Storage instructions
 -20 °C (desiccate)

 Solubility overview
 Soluble in DMSO (50mM) and in ethanol (10mM)

 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

Molecular Weight Chemical structure $1,6,7,8,9,11a\beta,12,13,14,14\alpha a$ -Decahydro- $1\beta,13\alpha$ -dihydroxy- 6β -methyl-4H-cyclopent(f)oxacyclotridecin-4-one 280.36



Molecular Formula CAS Number PubChem identifier SMILES InChi

InChiKey MDL number Appearance 20350-15-6 6436187 [H][C@]1(C)CCC\C=C\C2C[C@H](O)C[C@H]2[C@H](O)\C=C\C(=O)O1 lnChl=1S/C16H24O4/c1-11-5-3-2-4-6-12-9-13(17)10-14(12)15(18)7-8-16(19)20-11/h4,6-8,11-15,17-18H,2-3,5,9-10H2,1H3/b6-4+,8-7+/t11-,12?,13-,14+,15+/m0/s1 KQNZDYYTLMIZCT-KFKPYADVSA-N MFCD12913297 White to off-white solid

References

Brefeldin A: the advantage of being uncompetitive.

Chardin and McCormick (1999)	Cell 97(2)
PubMedID	10219235

Golgi tubule traffic and the effects of brefeldin A visualized in living cells.

Sciaky et al (1997) J Cell Biol 39(5) **PubMedID** 9382862

Small molecules enhance CRISPR genome editing in pluripotent stem cells.

Yu et al (2015) Cell Stem Cell 16(2) **PubMedID** 25658371

Detection of intracellular cytokines by flow cytometry.

Jung et al (1993) J Immunol Methods. 159(1-2) **PubMedID** 8445253

Molecular mechanism and functional role of brefeldin A-mediated ADP-ribosylation of CtBP1/BARS.

 PubMedID
 23716697