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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 ADP-ribosylation factors to the golgi complex.

Uses

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).

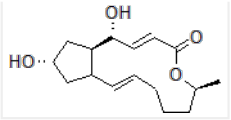
Monensin sodium salt also available

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	1,6,7,8,9,11aβ,12,13,14,14αa-Decahydro-1β,13α-dihydroxy-6β-methyl-4H-cyclopent(f)oxacyclotridecin-4-one
Molecular Weight	280.36
Chemical structure	



Molecular Formula	$C_{16}H_{24}O_4$
CAS Number	20350-15-6
PubChem identifier	6436187
SMILES	[H][C@]1(C)CCC\C=C\C2C[C@H](O)C[C@H]2[C@H](O)\C=C\C(=O)O1
InChi	InChI=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
InChiKey	KQNZDYYTLMIZCT-KFKPYADVSA-N
MDL number	MFCD12913297
Appearance	White to off-white solid

References

Brefeldin A: the advantage of being uncompetitive.

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Jung et al (1993) J Immunol Methods. 159(1-2)
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Molecular mechanism and functional role of brefeldin A-mediated ADP-ribosylation of CtBP1/BARS.

Colanzi et al (2013) Proc Natl Acad Sci U S A 110(24)
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