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## DATASHEET

### Brefeldin A (BFA)

## Product overview

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

## Biological Data

<b>Biological description</b>	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.
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### 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

<b>Storage instructions</b>	-20°C (desiccate)
<b>Solubility overview</b>	Soluble in DMSO (50mM) and in ethanol (10mM)
<b>Important</b>	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use

## Chemical Data

<b>Chemical name</b>	1,6,7,8,9,11a $\beta$ ,12,13,14,14aa-Decahydro-1 $\beta$ ,13a-dihydroxy-6 $\beta$ -methyl-4H-cyclopent(f)oxacyclotridec-4-one
<b>Molecular Weight</b>	280.36
<b>Chemical structure</b>	
<b>Molecular Formula</b>	C <sub>16</sub> H <sub>24</sub> O <sub>4</sub>
<b>CAS Number</b>	20350-15-6
<b>PubChem identifier</b>	6436187
<b>SMILES</b>	[H][C@]1(C)CCC[C@H]2C[C@H](O)C[C@H]2[C@H](O)C=C[C@H](O)1
<b>InChi</b>	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
<b>InChiKey</b>	KQNZDYYTLMIZCT-KFKPYADVSA-N
<b>MDL number</b>	MFCD12913297
<b>Appearance</b>	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.

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

**PubMedID** [23716697](#)