Hello Bio, Inc.
304 Wall St., Princeton, NJ 08540 USA

T. 609-683-7500
F. 609-228-4994

customercare-usa@hellobio.com

DATASHEET

Monensin sodium salt

Product overview

Name	Monensin sodium salt
Cat No	HB4882
Alternative names	Monensin A, NSC 343257, MONA, MonH, Monensic acid
Biological action	Inhibitor
Purity	>98%
Description	Protein transport inhibitor. Commonly used in cytokine staining.

Biological Data

Biological description

Monensin is an ionophore and protein transport inhibitor which facilitates the transmembrane exchange of sodium ions for protons.

Monensin disrupts the trans-Golgi transport of proteins by interacting with Golgi membrane Na^{+} $^{+}$ /H^{+} transport.It also neutralizes acidic intracellular compartments and disrupts the Golgi apparatus structure and slows down and reduces the process of endocytosis.

Uses

Monensin is commonly used for intracellular staining of cytokines for flow cytometry by inducing an accumulation of cytokines in the golgi complex. Monensin also shows antibiotic action and induces apoptosis.

Brefeldin A (BFA) also available.

Additionally shows inhibitor activity towards some Coronaviruses (CoVs) (e.g. (MERS-CoV)).

Solubility & Handling

Storage instructions	-20°C
Solubility overview	Soluble in ethanol (100mM)
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

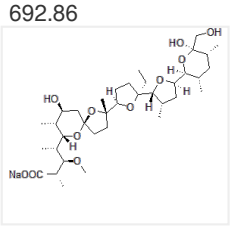
Chemical name

4-[2-[5-Ethyl-5-[5-[6-hydroxy-6-(hydroxymethyl)-3,5-dimethyloxan-2-yl]-3-methyloxolan-2-yl]oxolan-2-yl]-9-hydroxy-2,8-dimethyl-1,6-dioxaspiro[4.5]dec-7-yl]-3-methoxy-2-methylpentanoic acid sodium salt

Molecular Weight

692.86

Chemical structure



Molecular Formula	$C_{36}H_{61}NaO_{11}$
CAS Number	22373-78-0
PubChem identifier	23667299
SMILES	C[C@@H]([C@@H](OC)[C@@H](C(O[Na])=O)C)[C@]1([H])[C@H](C)[C@@H](O)C[C@]2(CC[C@](C@]3([H])O[C@@]([C@@]4([H])[C@@H](C)C[C@@]([C@]5([H])[C@@H](C)C[C@@H](C)[C@@](CO)(O)O5)([H])O4)(CC)CC3)(C)O2)O1
InChi	OC[C@]1(O)O[C@@H]([C@@H](C)C[C@H]1C)[C@H]2C[C@H](C)[C@@H](O2)[C@]3(CC)CC[C@@H](O3)[C@]5(C)CC[C@]4(C[C@H](O)C[C@](C)(O4)[C@@H](C)[C@@H](OC)C(C)C(=O)O)O5
InChiKey	XOIQMTLWECTKJL-FBZUZRIGSA-M
MDL number	MFCD00077826

References

Structure and antimicrobial properties of monensin A and its derivatives: summary of the achievements.

Aowicki and Huczyński (2013) Biomed Res Int. 2013
PubMedID 23509771

Alteration of intracellular traffic by monensin; mechanism, specificity and relationship to toxicity.

Mollenhauer et al (1990) Biochim Biophys Acta. 1031(2)
PubMedID 2160275

Monensin-induced redistribution of enzymes and products from Golgi stacks to swollen vesicles in plant cells.

Zhang et al (1996) Eur J Cell Biol. 71(4)
PubMedID 8980903

Evaluation of monensin and brefeldin A for flow cytometric determination of interleukin-1 beta, interleukin-6, and tumor necrosis factor-alpha in monocytes.

Schuerwegh et al (2001) Cytometry 46(3)
PubMedID 11449408

Detection of intracellular cytokines by flow cytometry.

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

High-Throughput Screening and Identification of Potent Broad-Spectrum Inhibitors of Coronaviruses

Shen et al (2019) J Virol. 93(12)
PubMedID 30918074