Product overview

Name: Monensin sodium salt
Cat No: HB4882
Short description: Protein transport inhibitor. Ionophore.
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 $\text{Na}^+/\text{H}^+$ 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.

Alternative names: Monensin A, NSC 343257, MONA, MonH, Monensic acid
Biological action: Inhibitor
Purity: >98%
**Properties**

**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**
![Chemical structure image]

**Molecular Formula**
C$_{36}$H$_{61}$NaO$_{11}$

**CAS Number**
22373-78-0

**PubChem identifier**
23667299

**SMILES**
C[O@@H][C@@H](OC)[C@@H](C(O[Na])=O)C[C@H]1([H])C[C@H](C)[C@@H](O2)C[C@](2CC[C@](3CC)[C@@H](O3)C[C@@](4O)C[C@@](4O)C[C@@](3O)C[C@@](4O))O5)

**InChI**
OC[C@1(O)[C@@H](C(C)C(=O)O)O]C[C@@H](O)[C@@H](C)[C@@H](C)[C@@H](OC)C[C@@H]([H])C[C@@H]([H])C[C@H][C@@H](C)CC[C@@H](O3)[C@](5[C@](6[C@](7[C@@H](8[C@@H](9[C@@H](10[C@@H](11[C@@H](12[C@](13[C@@H](14[C@@H](15[C@@H](16[C@](17[C@@H](18[C@@H](19[C@@H](20[C@@H](21[C@](22[C@@H](23[C@@H](24[C@@H](25[C@](26[C@@H](27[C@@H](28[C@](29[C@@H](30[C@@H](31[C@](32[C@@H](33[C@@H](34[C@](35[C@@H](36[C@@H])))C))))))]))))))))))]))))))]))))]

**InChiKey**
XOIOMTLWECTKJL-FBZUZRIGSA-M

**MDL number**
MFCD00077826

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**Storing and Using Your Product**

**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

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**References for Monensin sodium salt**

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

**PubMedID:** 23509771

**Alteration of intracellular traffic by monensin; mechanism, specificity and relationship to toxicity.**
Mollenhauer et al (1990) Biochim Biophys Acta. 1031(2) : 225-46

**PubMedID:** 2160275

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

**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.


PubMedID: 11449408

Detection of intracellular cytokines by flow cytometry.


PubMedID: 8445253