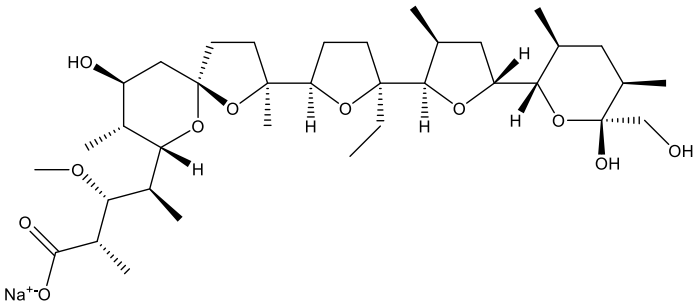
Catalog # 10-2659
Monensin Na

CAS# 22373-78-0

2-[5-Ethyltetrahydro-5-[tetrahydro-3-methyl-5-[tetrahydro-6-hydroxy-6-hydroxymethyl-3,5-dimethyl-2H-pyran-2-yl]-2-furyl]-2-furyl]-9-hydroxy-β-methoxy-α,γ,2,8-tetramethyl-1,6-dioxaspiro[4.5]decane-7-butyric acid, sodium salt; NSC-343257

Lot # X103471



Monensin is a monovalent-selective ionophore antibiotic, typically employed as a Na^+ ionophore.[1] Interferes with vesicular transport through the Golgi aparatus[2] and induces Golgi swelling[3]. Neutralizes intracellular compartments such as the trans Golgi apparatus cisternae, lysosomes, and certain endosomes[4] (inducing EGFR endosomal arrest for example[5]). Induces the cleavage of full-length CREB3 in HEK293 cells.[6]

1) Aowicki and Huczynski (2013), *Structure and antimicrobial properties of monensin A and its derivatives: summary of the achievements*; Biomed. Res. Int. **2013** 742149
2) Kallen *et al*. (1993), *Monensin inhibits synthesis of plasma membrane sphingomyelin by blocking transport of ceramide through the Golgi: evidence for two sites of sphingomyelin synthesis in BHK cells*; Biochim. Biophys. Acta **1166** 305
3) Boss *et al*. (1984), *Monensin-induced swelling of Golgi apparatus cisternae mediated by a proton gradient*; Eur. J. Cell. Biol. **34** 1
4) Mollenhauer *et al*. (1990), *Alteration of intracellular traffic by monensin; mechanism, specificity and relationship to toxicity*; Biochem. Biophys. Acta **1031** 225
5) Hafner *et al*. (2021), *The Cardenolide Glycoside Acovenoside A Interferes with Epidermal Growth Factor Receptor Trafficking in Non-Small Cell Lung Cancer Cells*; Front. Pharmacol. **12** 611657
6) Oh-Hashi *et al*. (2021), *Comparative Analysis of CREB3 and CREB3L2 Protein Expression in HEK293 Cells*; Int. J. Mol. Sci. **22** 2767

PHYSICAL DATA

Molecular Weight:	692.86
Molecular Formula:	$C_{36}H_{61}O_{11}\cdot Na$
Purity:	>90-95% by TLC
	NMR: (Conforms)
Solubility:	DMSO (25 mg/ml with warming)
Physical Description:	White solid
Storage and Stability:	Store as supplied at room temperature for up to 2 years from the date of purchase. Solutions in DMSO may be stored at -20°C for up to 1 month.

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