PRODUCT INFORMATION



Inostamycin A (sodium salt)

Item No. 33018

Formal Name:	(aR,2R,3S,4R,5S,6R)-a,5-diethyl-6-	
	[(1S,2S,3S,5R)-5-[(2S,2'R,3'R,4S,5S,5'R)-	
	5'-ethyloctahydro-2'-hydroxy-5'-[(1S)-1-	
	hydroxybutyl]-2,3',4-trimethyl[2,2'-bifuran]-	0
	5-yl]-2-hydroxy-1,3-dimethyl-4-oxoheptyl]	
	tetrahydro-2,4-dihydroxy-3-methyl-2H-pyran-	OH
	2-acetic acid, monosodium salt	
Synonym:	Inostamycin	
MF:	C ₃₈ H ₆₈ O ₁₁ ● Na	
FW:	723.9	
Purity:	≥85%	
Supplied as:	A solid	• Na*
Storage:	-20°C	
Stability:	≥4 years	
Item Origin:	Bacterium/Streptomyces sp.	

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Inostamycin A (sodium salt) is supplied as a solid. A stock solution may be made by dissolving the inostamycin A (sodium salt) in the solvent of choice, which should be purged with an inert gas. Inostamycin A (sodium salt) is soluble in organic solvents such as acetone, chloroform, and methanol.

Description

Inostamycin A is a bacterial metabolite that has been found in Streptomyces and has anticancer activity.¹ It is an inhibitor of CDP-diacylglycerol:inositol 3-phosphatidyltransferase (IC₅₀ = 0.02 µg/ml in A431 cell membranes) and is selective for CDP-diacylglycerol:inositol 3-phosphatidyltransferase over phospholipase C (PLC) and phosphatidylinositol kinase at 10 µg/ml.² Inostamycin A decreases viability of YCU-T892, KCC-TC873, KB, HSC-4, and YCU-T891 oral squamous cell carcinoma (OSCC) cells in a concentration-dependent manner.³ It induces cell cycle arrest in the G₁ phase in HSC-4 cells when used at a concentration of 250 ng/ml and induces apoptosis in Ms-1 small cell lung cancer cells at 300 ng/ml.^{3.4} Inostamycin A also reduces levels of matrix metalloproteinase-2 (MMP-2) and MMP-9 and inhibits EGF-induced migration of HSC-4 cells.⁵

References

- 1. Imoto, M., Umezawa, K., Takahashi, Y., et al. Isolation and structure determination of inostamycin, a novel inhibitor of phosphatidylinositol turnover. J. Nat. Prod. 53(4), 825-829 (1990).
- 2. Imoto, M., Taniguchi, Y., and Umezawa, K. Inhibition of CDP-DG: inositol transferase by inostamycin. J. Biochem. 112(2), 299-302 (1992).
- 3. Baba, Y., Tsukuda, M., Mochimatsu, I., et al. Cytostatic effect of inostamycin, an inhibitor of cytidine 5'-diphosphate 1,2-diacyl-sn-glycerol (CDP-DG): inositol transferase, on oral squamous cell carcinoma cell lines. Cell Biol. Int. 25(7), 613-620 (2001).
- 4. Imoto, M., Tanabe, K., Simizu, S., et al. Inhibition of cyclin D1 expression and induction of apoptosis by inostamycin in small cell lung carcinoma cells. Jpn. J. Cancer Res. 89(3), 315-322 (1998).
- 5. Baba, Y., Tsukuda, M., Mochimatsu, I., et al. Inostamycin, an inhibitor of cytidine 5'-diphosphate 1,2-diacyl-sn-glycerol (CDP-DG): Inositol transferase, suppresses invasion ability by reducing productions of matrix metalloproteinase-2 and -9 and cell motility in HSC-4 tongue carcinoma cell line. Clin. Exp. Metastasis 18(3), 273-279 (2000).

WARNING THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFFTY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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