PRODUCT INFORMATION

Inostamycin A (sodium salt)

Item No. 33018

Formal Name: (αR,2R,3S,4R,5S,6R)-α,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]-5-yl]-2-hydroxy-1,3-dimethyl-4-oxoheptyl] tetrahydro-2,4-dihydroxy-3-methyl-2H-pyran-2-acetic acid, monosodium salt

Synonym: Inostamycin

MF: $C_{38}H_{68}O_{11}$ • Na

FW: 723.9

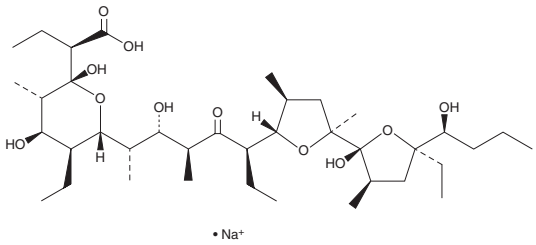
Purity: ≥85%

Supplied as: A solid

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 (IC_{50} = 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 G_1 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).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM