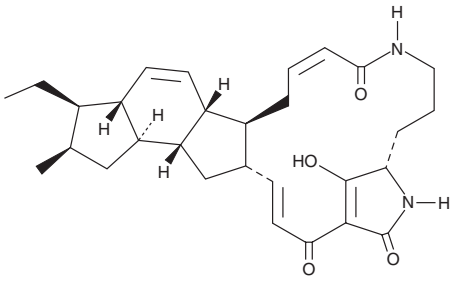
PRODUCT INFORMATION

Ikarugamycin

Item No. 15386

CAS Registry No.:	36531-78-9
Formal Name:	(2R,3R,7Z,14S,19E)-3-ethyl-2,3,3aS,5aR,5bS,6,10,11,12,13,14,15,20aS,21,21aR,21bR-hexadecahydro-22-hydroxy-2-methyl-14,17-metheno-17H-as-indaceno[3,2-k][1,6]diazacycloheptadecine-9,16,18(1H)-trione
MF:	$C_{29}H_{38}N_2O_4$
FW:	478.6
Purity:	≥99%
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

Ikarugamycin is supplied as a solid. A stock solution may be made by dissolving the ikarugamycin in the solvent of choice, which should be purged with an inert gas. Ikarugamycin is soluble in organic solvents such as DMSO and dimethyl formamide. Ikarugamycin is also slightly soluble in ethanol and methanol.

Description

Ikarugamycin is a macrocyclic antibiotic first isolated from *Streptomyces* sp. that demonstrates potent antiprotozoal activity.[1] It exhibits cytotoxic effects in cancer cell lines, inhibiting cell proliferation (IC_{50} = 221.3 nM in HL-60 cells) through genotoxicity and by inducing apoptosis and activation of caspases.[2] It also was shown to significantly inhibit oxidized low-density lipoprotein-induced accumulation of cholesteryl esters in macrophages at 1-4 µM.[3] Additionally, ikarugamycin is used to inhibit clathrin-coated pit-mediated endocytosis.[4]

References

1. Jomon, K., Kuroda, Y., Ajisaka, M., *et al*. A new antibiotic, ikarugamycin. *J. Antibiot. (Tokyo)* **25(5)**, 271-280 (1972).
2. Popescu, R., Heiss, E.H., Ferk, F., *et al*. Ikarugamycin induces DNA damage, intracellular calcium increase, p38 MAP kinase activation and apoptosis in HL-60 human promyelocytic leukemia cells. *Mutat. Res.* **709-710**, 60-66 (2011).
3. Hasumi, K., Shinohara, C., Naganuma, S., *et al*. Inhibition of the uptake of oxidized low-density lipoprotein in macrophage J774 by the antibiotic ikarugamycin. *Eur. J. Biochem.* **205(2)**, 841-846 (1992).
4. Luo, T., Fredericksen, B.L., Hasumi, K., *et al*. Human immunodeficiency virus type 1 Nef-induced CD4 cell surface downregulation is inhibited by ikarugamycin. *J. Virol.* **75(5)**, 2488-2492 (2001).

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