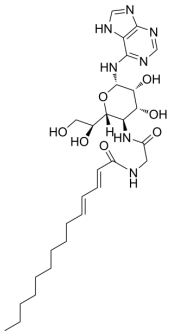
KRN5500

Cat. No.:	HY-13659
CAS No.:	151276-95-8
Molecular Formula:	$C_{28}H_{43}N_7O_7$
Molecular Weight:	589.68
Target:	Bcl-2 Family; Apoptosis; Antibiotic
Pathway:	Apoptosis; Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	KRN5500 (NSC 650426), a Spicamycin (HY-127130) derivative and a nucleoside-like antibiotic with anti-tumor activity. KRN5500 also induces apoptosis via the down-regulation of Bcl-2 expression. KRN5500 shows a significant efficacy in the human tumor xenograft model in mice[1][2].
IC_{50} & Target	Bcl-2

In Vitro

KRN5500 (10-160 ng/mL; 0-5 d) potently inhibits cell proliferation and viability of NB4, NKM-1, and HL-60 cells.KRN5500 (40 ng/mL, 160 ng/mL; 48 h) induces apoptosis in NB4, HL-60 and NKM-1 cells.KRN5500 (40 ng/mL, 80 ng/mL; 36 h) down-regulates the Bcl-2 expression in NB4 cells[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	NB4, HL-60, NKM-1, NOP-1 and Daudi cells
Concentration:	10 ng/mL, 20 ng/mL, 40 ng/mL, 80 ng/mL, 160 ng/mL
Incubation Time:	0, 1, 2, 3, 4, and 5 days or 72 h
Result:	Completely inhibited cell proliferation and viability of NB4 and NKM-1 at about 80 ng/mL, of HL-60 at 160 ng/mL. Inhibited cells viability of IC_{50}s of 51.6 ng/mL, 89.7 ng/mL, 66.5 ng/mL, 277.0 ng/mL, 242.1 ng/mL, respectively.

Western Blot Analysis[1]

Cell Line:	NB4 cells
Concentration:	40 ng/mL, 80 ng/mL
Incubation Time:	36 h
Result:	Reduced the Bcl-2 expression without affecting Bcl-xL and Bax expression.

In Vivo

KRN5500 (4 mg/kg; i.p.; once daily for 5 d) shows anti-tumor activity against some murine tumors and human tumor xenografts with a decreasing tumor weight[2].

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Animal Model:	Mouse model with murine tumors and human tumor xenografts[2]
Dosage:	4 mg/kg
Administration:	Intraperitoneal injection; once daily for 5 days
Result:	Prolonged the survival of P388 leukemia- and B16 melanoma-bearing mice but lacked marginally effective on colon adenocarcinoma. Decreased tumor weight in 10 human stomach, 14 colon and 2 esophageal cancers.

REFERENCES

[1]. Zhang WJ, et al. Spicamycin and KRN5500 induce apoptosis in myeloid and lymphoid cell lines with down-regulation of bcl-2 expression and modulation of promyelocytic leukemia protein. Jpn J Cancer Res. 2000 Jun;91(6):604-11.

[2]. Kamishohara M, et al. Antitumor activity of a spicamycin derivative, KRN5500, and its active metabolite in tumor cells. Oncol Res. 1994;6(8):383-90.

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