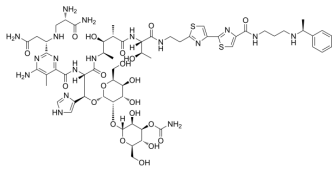
Peplomycin

Cat. No.:	HY-106364
CAS No.:	68247-85-8
Molecular Formula:	$C_{61}H_{88}N_{18}O_{21}S_2$
Molecular Weight:	1473.59
Target:	Antibiotic
Pathway:	Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Peplomycin (Bleomycin PEP; Pepleomycin) is an antibiotic analogue of Bleomycin (HY-108345), with high antitumor effect and less pulmonary toxicity. Peplomycin induce apoptosis in oral squamous carcinoma cell line SSCKN cells and pulmonary fibrosis in rats[1][2][3][4].

In Vitro

Peplomycin (0-100 μM; 30 h) inhibits human oral squamous carcinoma cell line SSCKN and SCCTF cells in a dose-dependent manner[3].

Peplomycin (1 μM and 10 μM; 30 h) results nuclear fragmentation and condensation of chromatin in cells dose-dependently and induces apoptosis[3].

Peplomycin (5 mg/mL; 7 d) induces pulmonary fibrosis separated from saline-injected rats (N-Fib) by differentiating fibroblasts to alpha-SMA-positive MF[4].

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

Cell Viability Assay[3]

Cell Line:	SSCKN and SCCTF cells
Concentration:	0, 1, 5, 10, 50, and 100 μM
Incubation Time:	30 hours
Result:	Decreased SSCKN and SCCTF cells viability dose-dependently up to 50 μM, and resulted the viability of 38% and 30% that of the control group, respectively.

In Vivo

Peplomycin (5 mg/kg; once daily) induces rat pulmonary fibroblasts to myofibroblasts (MF), while the peripheries of lungs adjacent to the pleura reveals advanced fibrosis with a small number of alpha-smooth muscle actin (alpha-SMA)-positive MF, which ultrastructurally possessed abundant microfilaments and cellular organelles[4].

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REFERENCES

[1]. Carter SK, et al. Peplomycin. Cancer Treat Rev. 1984 Dec;11(4):303-5.

[2]. Asano Y, et al. A case of peplomycin-induced scleroderma. Br J Dermatol. 2004 Jun;150(6):1213-4.

[3]. Okamura H, et al. Peplomycin-induced apoptosis in oral squamous carcinoma cells depends on bleomycin sensitivity. Oral Oncol. 2001 Jun;37(4):379-85.

[4]. Osaki T, et al. Peplomycin, a bleomycin derivative, induces myofibroblasts in pulmonary fibrosis. Int J Exp Pathol. 2001 Aug;82(4):231-41.

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