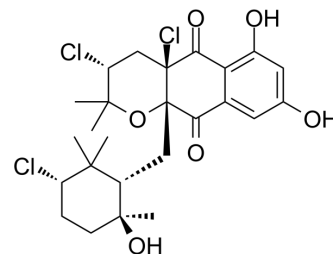


## Napyradiomycin B4

Cat. No.:	HY-N12740
Molecular Formula:	C <sub>25</sub> H <sub>31</sub> Cl <sub>3</sub> O <sub>6</sub>
Molecular Weight:	533.87
Target:	MEK; ERK
Pathway:	MAPK/ERK Pathway; Stem Cell/Wnt
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



### BIOLOGICAL ACTIVITY

Description	Napyradiomycin B4 is a Napyradiomycin derivative, which inhibits the RANKL-induced MEK-ERK signaling pathway. Napyradiomycin B4 attenuates osteoclastogenesis and prevents alveolar bone destruction in experimental periodontitis <sup>[1]</sup> .	
In Vitro	Napyradiomycin B4 (5 μM, 4 days) inhibits RANKL-induced osteoclast differentiation <sup>[1]</sup> . Napyradiomycin B4 (5 μM, 4 days) promotes the expressions of Nrf2 related genes and inhibits the expressions of osteoclast related genes <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
	Immunofluorescence <sup>[1]</sup>	
	Cell Line:	BMMs
	Concentration:	1-5 μM
	Incubation Time:	4 days
	Result:	Revealed no evidence of F-actin ring.
	Real Time qPCR <sup>[1]</sup>	
	Cell Line:	BMMs
	Concentration:	1-5 μM
	Incubation Time:	4 days
Result:	Reduced mRNA expressions of Nfatc1, Acp5, Dcstamp, Ctsk, and Mmp9. Promoted mRNA expressions of Nrf2, Nqo1 and HO1.	
In Vivo	Napyradiomycin B4 (2-12 mg/kg, i.p. for 6 days) exhibits protective effect against osteoclast-mediated bone loss, prevents periodontal bone destruction by suppressing osteoclast formation in C57BL/J6 mice model, without significant toxicity <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
	Animal Model:	Ligature-induced periodontitis in C57BL/J6 mice model <sup>[1]</sup>

Dosage:	2-12 mg/kg
Administration:	i.p. for 6 days
Result:	Prevented the alveolar bone resorption and bone loss with high dose, inhibited osteoclast formation.

## REFERENCES

[1]. Kim JA, et al., Napyradiomycin B4 Suppresses RANKL-Induced Osteoclastogenesis and Prevents Alveolar Bone Destruction in Experimental Periodontitis. ACS Pharmacol Transl Sci. 2024 Apr 3;7(4):1023-1031.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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