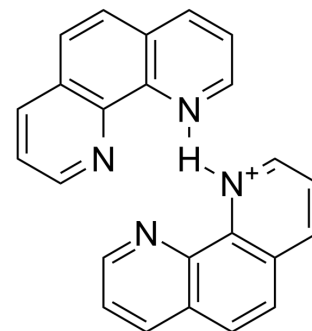


Ph-Ph+

Cat. No.:	HY-144121
Molecular Formula:	C ₂₄ H ₁₇ N ₄ ⁺
Molecular Weight:	361.42
Target:	Bacterial; Fungal; Apoptosis
Pathway:	Anti-infection; Apoptosis
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Ph-Ph+ is a hemiprotonic compound, which is produced from phenanthroline (ph) dimerization. Ph-Ph+ has antitumor, antibacterial and antifungal activities ^[1] .
In Vitro	<p>Ph-Ph+ (0.0039-2 μmol/mL; 24-72 hours) inhibits the various tumor cell proliferation in a concentration- and time-dependent manner for H22, U251MG, human neuroblastoma SH-SY5Y cell line, mouse melanoma B16 cell line, and human lung adenocarcinoma A549 cell line). , Ph-Ph+ does not affect the viabilities of human L02 cells and HUVEC cells. Under an optical microscope, Ph-Ph+-treated tumor cells shrank and exhibited apoptotic bodies. Ph-Ph+ has a selective antitumor effect through inducing cell apoptosis^[1].</p> <p>Ph-Ph+ has broad-spectrum antibacterial and antifungal activities, and drug-resistant bacteria, including methicillin-resistant <i>Staphylococcus aureus</i>^[1].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>
In Vivo	<p>The tumor-bearing mice were prepared using the subcutaneous transplantation mouse hepatoma H22 cell line. Ph-Ph+ (2-8 mg/kg; i.v; for 8 days) treatment reduces tumor volume and weight in a dose-dependent manner^[1].</p> <p>In animal models of liver cancer with fungal infection, the Ph-Ph+ (2-8 mg/kg; i.v; once a day for 9 days) retards proliferation of hepatoma cells in tumor-bearing mice and remedies pneumonia and encephalitis caused by <i>Cryptococcus neoformans</i>^[1].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

REFERENCES

[1]. Zizhen Zhao, et al. Synthesis of Hemiprotonic Phenanthroline-Phenanthroline + Compounds with both Antitumor and Antimicrobial Activity. *J Med Chem.* 2022 Feb 10;65(3):2532-2547.

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

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