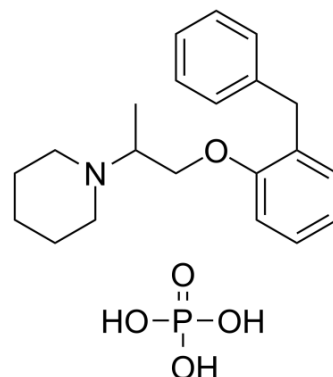


Benproperine phosphate

Cat. No.:	HY-114657A
CAS No.:	19428-14-9
Molecular Formula:	C ₂₁ H ₃₀ NO ₅ P
Molecular Weight:	407.44
Target:	Arp2/3 Complex
Pathway:	Cytoskeleton
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Benproperine phosphate is an orally active, potent actin-related protein 2/3 complex subunit 2 (ARPC2) inhibitor. Benproperine phosphate attenuates the actin polymerization rate of action polymerization nucleation by impairing Arp2/3 function. Benproperine phosphate has the potential for a cough suppressant and suppresses cancer cell migration and tumor metastasis ^[1] .								
In Vitro	<p>Benproperine phosphate (20-120 μM; for 24 hours) inhibits cell viability in a dose-dependent manner^[1]. Benproperine phosphate (10 μM; for 24 hours) significantly inhibits the migration of various types of cancer cells and inhibits the migration and invasion of DLD-1, AsPC-1 cells with IC₅₀ values of 1-2 μM. Benproperine phosphate (10 μM; for 24 hours) does not affect cortactin-rich lamellipodium in MCF-10A cells^[1].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Cell Viability Assay^[1]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>DLD-1, AsPC-1, CFPAC-1, A375P, A375P, MDA-MB-231, DU145, DU145 cancer cells</td> </tr> <tr> <td>Concentration:</td> <td>20, 40, 60, 80, 100, 120 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>For 24 hours</td> </tr> <tr> <td>Result:</td> <td>Inhibited cell viability in a dose-dependent manner.</td> </tr> </table>	Cell Line:	DLD-1, AsPC-1, CFPAC-1, A375P, A375P, MDA-MB-231, DU145, DU145 cancer cells	Concentration:	20, 40, 60, 80, 100, 120 μM	Incubation Time:	For 24 hours	Result:	Inhibited cell viability in a dose-dependent manner.
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Concentration:	20, 40, 60, 80, 100, 120 μM								
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Result:	Inhibited cell viability in a dose-dependent manner.								
In Vivo	<p>Benproperine phosphate (50, 100 mg/kg; oral gavage; 5 days per week for 4 weeks) inhibits primary pancreatic tumor growth^[1].</p> <p>Benproperine phosphate shows a marked decrease in the lung metastasis of AsPC-1 cells (56.1% inhibition) in mouse. Benproperine phosphate significantly suppressed the liver metastasis of HCT-116 cells by 78.9% and DLD-1 cells by 78.2%^[1].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <table border="1"> <tr> <td>Animal Model:</td> <td>Female BALB/c nude mice of 6-week-old with AsPC-1 cells^[1]</td> </tr> <tr> <td>Dosage:</td> <td>50, 100 mg/kg</td> </tr> <tr> <td>Administration:</td> <td>Oral gavage; 5 days per week for 4 weeks</td> </tr> </table>	Animal Model:	Female BALB/c nude mice of 6-week-old with AsPC-1 cells ^[1]	Dosage:	50, 100 mg/kg	Administration:	Oral gavage; 5 days per week for 4 weeks		
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Dosage:	50, 100 mg/kg								
Administration:	Oral gavage; 5 days per week for 4 weeks								

Result:	Inhibited primary pancreatic tumor growth compared to the vehicle control (47.7% inhibition) without body weights change.
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REFERENCES

[1]. Yae Jin Yoon, et al. Benproperine, an ARPC2 inhibitor, suppresses cancer cell migration and tumor metastasis. *Biochem Pharmacol.* 2019 May;163:46-59.

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

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