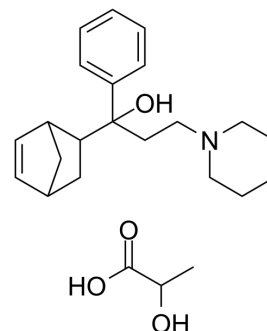


Biperiden lactate

Cat. No.:	HY-13204B
CAS No.:	7085-45-2
Molecular Formula:	C ₂₄ H ₃₅ NO ₄
Molecular Weight:	401.54
Target:	mAChR
Pathway:	GPCR/G Protein; Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Biperiden (KL 373) lactate is an orally active non-selective muscarinic receptor antagonist that competitively binds to M1 muscarinic receptors. Biperiden (KL 373) lactate inhibits acetylcholine and enhances dopamine signaling in the central nervous system. Biperiden (KL 373) lactate has the potential for the research of Parkinson's disease and other related psychiatric disorders ^{[1][2]} .								
In Vitro	<p>Biperiden lactate (29.6 µg/ml, 72 hours) can significantly induce apoptosis and inhibit proliferation at high doses in human pancreatic ductal adenocarcinoma cells^[1].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Cell Proliferation Assay^[1]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>Panc-1, Panc-2 and BxPC3 human pancreatic ductal adenocarcinoma cells</td> </tr> <tr> <td>Concentration:</td> <td>29.6 µg/mL</td> </tr> <tr> <td>Incubation Time:</td> <td>72 hours</td> </tr> <tr> <td>Result:</td> <td>Inhibited cell proliferation at 72 hours significantly by reducing nuclear c-Rel translocation.</td> </tr> </table>	Cell Line:	Panc-1, Panc-2 and BxPC3 human pancreatic ductal adenocarcinoma cells	Concentration:	29.6 µg/mL	Incubation Time:	72 hours	Result:	Inhibited cell proliferation at 72 hours significantly by reducing nuclear c-Rel translocation.
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In Vivo	<p>Biperiden lactate (intraperitoneal injection, 10 mg/kg, everyday, 3 weeks) reduces tumor size by 83% in subcutaneous xenograft mouse using Panc-1 human pancreatic ductal adenocarcinoma cells^[1].</p> <p>Biperiden lactate (intraperitoneal injection, 8 mg/kg, every 8 hours, 10 days) can reduce frequency of spontaneous seizures and extracellular hippocampal glutamate levels while cause a long-term decrease in hippocampal excitability^[2].</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>Subcutaneous xenograft mouse using Panc-1 human pancreatic ductal adenocarcinoma cells^[1]</td> </tr> <tr> <td>Dosage:</td> <td>10 mg/kg</td> </tr> <tr> <td>Administration:</td> <td>Intraperitoneal injection; everyday; 3 weeks</td> </tr> <tr> <td>Result:</td> <td>Tumor size reduced by 83%.</td> </tr> </table>	Animal Model:	Subcutaneous xenograft mouse using Panc-1 human pancreatic ductal adenocarcinoma cells ^[1]	Dosage:	10 mg/kg	Administration:	Intraperitoneal injection; everyday; 3 weeks	Result:	Tumor size reduced by 83%.
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Dosage:	10 mg/kg								
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Animal Model:	Male Wistar rats (200-250 g) ^[2]
Dosage:	8 mg/kg
Administration:	Intraperitoneal injection; every 8 hours; 10 days
Result:	Reduced late seizures by about three times with no affecting emotional memory damage

REFERENCES

[1]. Leonie Konczalla et al. Biperiden and mepazine effectively inhibit MALT1 activity and tumor growth in pancreatic cancer. *Int J Cancer*. 2020 Mar 15;146(6):1618-1630.

[2]. Simone Bittencourt, et al. Modification of the natural progression of epileptogenesis by means of biperiden in the pilocarpine model of epilepsy. *Epilepsy Res*. 2017 Dec;138:88-97. doi: 10.1016/j.eplepsyres.2017.10.019. Epub 2017 Oct 29.

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

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