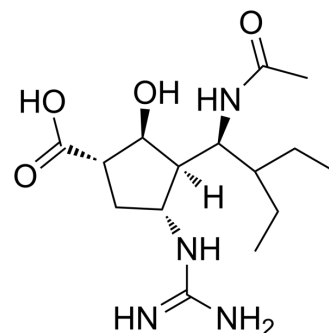


Peramivir

Cat. No.:	HY-17015A		
CAS No.:	330600-85-6		
Molecular Formula:	C ₁₅ H ₂₈ N ₄ O ₄		
Molecular Weight:	328.41		
Target:	IKK; JNK; STAT; p38 MAPK; ERK		
Pathway:	NF-κB; MAPK/ERK Pathway; JAK/STAT Signaling; Stem Cell/Wnt		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro	DMSO : < 1 mg/mL (ultrasonic;warming;heat to 60°C) (insoluble or slightly soluble)
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BIOLOGICAL ACTIVITY

Description	Peramivir is a novel cyclopentane neuraminidase inhibitor of influenza virus. Peramivir has antiviral activity and anti-cytokines storm effects. Peramivir can be used for the research of COVID-19 ^{[1][2][3]} .											
IC₅₀ & Target	IKK-α	STAT3	ERK1	ERK2								
In Vitro	<p>Peramivir (0.3125-40 μM, 4 h) has nontoxicity to macrophage^[1].</p> <p>Peramivir (2-10 μM, 6-12 h) inhibits cytokine release in LPS-induced hPBMCs^[1].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Cell Cytotoxicity Assay^[1]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>RAW 264.7</td> </tr> <tr> <td>Concentration:</td> <td>0.3125 μM, 0.625 μM, 1.25 μM, 2.5 μM, 5 μM, 10 μM, 20 μM, 40 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>4 h</td> </tr> <tr> <td>Result:</td> <td>Showed no apparent toxicity in the peramivir-treated macrophages at concentrations up to 40 μM.</td> </tr> </table>				Cell Line:	RAW 264.7	Concentration:	0.3125 μM, 0.625 μM, 1.25 μM, 2.5 μM, 5 μM, 10 μM, 20 μM, 40 μM	Incubation Time:	4 h	Result:	Showed no apparent toxicity in the peramivir-treated macrophages at concentrations up to 40 μM.
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In Vivo	<p>Peramivir (20-60 mg/kg, Intraperitoneal injection, single dose) inhibits LPS-induced cytokine storm, attenuates acute lung injury and prolongs the survival in cytokine storm syndrome model mice^[1].</p> <p>Peramivir (75 mg/kg, Intramuscular injection, once a day for 7 days) rescued BALB scid mice from lethal challenge with BR/08 in immunocompromised murine models of influenza B virus infection^[2].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>											

Animal Model:	Cytokine storm syndrome model mice ^[1]
Dosage:	20 mg/kg, 60 mg/kg
Administration:	Intraperitoneal injection (i.p.)
Result:	Decreased 8 cytokines including TNF- α , IFN- α , IFN- γ , chemokines (MCP-1), GM-CSF, IL-1 β , IL-6 and IL-12. Showed less inflammatory cell infiltrations, mild alveolar thickening and less bleeding points or congestion. Showed significant protective effects to the lung tissues.
Animal Model:	Immunocompromised murine models of influenza B virus infection ^[2]
Dosage:	75 mg/kg
Administration:	Intramuscular injection (i.m.)
Result:	Conferred complete protection against lethality, whether it was administered in one (1 \times), two (2 \times), or four (4 \times) doses, with maximum mean weight loss of 10% to 14%. Resulted in a trend of decreasing virus replication in the nasal cavities and lungs. Reduced the virus titers and replication.

CUSTOMER VALIDATION

- Nat Commun. 2013;4:2854.
- Chemosphere. 2017 Feb;169:550-557.
- Int Immunopharmacol. 2023 Jan 11;115:109706.
- Antimicrob Agents Chemother. 2020 Jun 23;64(7):e00222-20.
- Sci Rep. 2021 Aug 11;11(1):16293.

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REFERENCES

- [1]. Zhang C, et al. Peramivir, an anti-influenza virus drug, exhibits potential anti-cytokine storm effects [J]. *Frontiers in Immunology*, 2022, 13: 856327.
- [2]. Pascua P N Q, et al. Pathogenicity and peramivir efficacy in immunocompromised murine models of influenza B virus infection [J]. *Scientific reports*, 2017, 7(1): 7345.
- [3]. Alame M M, et al.. Peramivir: a novel intravenous neuraminidase inhibitor for treatment of acute influenza infections [J]. *Frontiers in microbiology*, 2016, 7: 450.

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

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