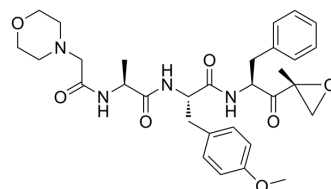


## ONX-0914

<b>Cat. No.:</b>	HY-13207		
<b>CAS No.:</b>	960374-59-8		
<b>Molecular Formula:</b>	C <sub>31</sub> H <sub>40</sub> N <sub>4</sub> O <sub>7</sub>		
<b>Molecular Weight:</b>	580.67		
<b>Target:</b>	Proteasome; Bacterial; HIV		
<b>Pathway:</b>	Metabolic Enzyme/Protease; Anti-infection		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : ≥ 35 mg/mL (60.28 mM)  
 \* "≥" means soluble, but saturation unknown.

	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	1.7221 mL	8.6107 mL	17.2215 mL
	5 mM	0.3444 mL	1.7221 mL	3.4443 mL
	10 mM	0.1722 mL	0.8611 mL	1.7221 mL

Please refer to the solubility information to select the appropriate solvent.

#### In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
 Solubility: ≥ 2.17 mg/mL (3.74 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
 Solubility: ≥ 2.17 mg/mL (3.74 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
 Solubility: ≥ 2.17 mg/mL (3.74 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

ONX-0914 (PR-957) is a selective inhibitor of low-molecular mass polypeptide-7 (LMP7), the chymotrypsin-like subunit of the immunoproteasome. ONX-0914 blocks cytokine production and attenuates progression of experimental arthritis. ONX-0914 is a noncompetitive irreversible inhibitor of the mycobacterial proteasome ( $K_i=5.2 \mu\text{M}$ ). ONX-0914 reactivates latent HIV-1 through p-TEFb activation mediated by HSF-1<sup>[1][2][3]</sup>.

#### IC<sub>50</sub> & Target

HIV-1

<b>In Vitro</b>	<p>ONX-0914 inhibits LMP7-specific antigen presentation. ONX-0914 blocks cytokine production by mouse splenocytes and blocks T cell differentiation<sup>[1]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>								
<b>In Vivo</b>	<p>ONX-0914 (2-10 mg/kg; i.v.; on days 4, 6 and 8) meliorates disease in mouse arthritis<sup>[1]</sup>.</p> <p>?ONX-0914 (2, 6 and 10 mg per kg body weight on days 25, 27, 29, 31 and 33; i.v.) treatment also induced a rapid therapeutic response in the T and B cell-dependent CIA (collagen-induced arthritis) model<sup>[1]</sup>.</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>Collagen antibody-induced arthritis (CAIA, Arthritis was induced in BALB/c mice with antibodies specific for type II collagen (mAb) and endotoxin)<sup>[1]</sup></td> </tr> <tr> <td>Dosage:</td> <td>2, 6 or 10 mg per kg body weight</td> </tr> <tr> <td>Administration:</td> <td>I.v.; treated on days 4, 6 and 8</td> </tr> <tr> <td>Result:</td> <td>Blocked disease progression in a dose-dependent manner and completely ameliorated visible signs of disease at the highest dose.</td> </tr> </table>	Animal Model:	Collagen antibody-induced arthritis (CAIA, Arthritis was induced in BALB/c mice with antibodies specific for type II collagen (mAb) and endotoxin) <sup>[1]</sup>	Dosage:	2, 6 or 10 mg per kg body weight	Administration:	I.v.; treated on days 4, 6 and 8	Result:	Blocked disease progression in a dose-dependent manner and completely ameliorated visible signs of disease at the highest dose.
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Administration:	I.v.; treated on days 4, 6 and 8								
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## CUSTOMER VALIDATION

- Mol Cancer. 2023 Dec 4;22(1):196.
- Redox Biol. 2021 Oct 14;47:102167.
- J Neuroinflammation. 2024 Aug 2;21(1):191.
- Cell Death Dis. 2022 Oct 8;13(10):860.
- Eur J Med Chem. 2021, 113455.

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## REFERENCES

- [1]. Muchamuel T, et al. A selective inhibitor of the immunoproteasome subunit LMP7 blocks cytokine production and attenuates progression of experimental arthritis [published correction appears in Nat Med. 2009 Nov;15(11):1333]. Nat Med. 2009;15(7):781-787.
- [2]. Rožman K, et al. Psoralen Derivatives as Inhibitors of Mycobacterium tuberculosis Proteasome. Molecules. 2020;25(6):1305. Published 2020 Mar 12.
- [3]. Lin J, et al. PR-957, a selective immunoproteasome inhibitor, reactivates latent HIV-1 through p-TEFb activation mediated by HSF-1. Biochem Pharmacol. 2018;156:511-523.

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

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