**ONX-0914 (PR-957)**

**Cat. No.:** A4011  
**CAS No.:** 960374-59-8  
**Formula:** C31H40N4O7  
**M.Wt:** 580.67  
**Synonyms:** ONX-0914, PR-957  
**Target:** Ubiquitination/Proteasome  
**Pathway:** Proteasome  
**Storage:** Store at -20°C

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### Solvent & Solubility

In Vitro

<table>
<thead>
<tr>
<th>Mass</th>
<th>Solvent Concentration</th>
<th>1mg</th>
<th>5mg</th>
<th>10mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td></td>
<td>1.7221 mL</td>
<td>8.6107 mL</td>
<td>17.2215 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td></td>
<td>0.3444 mL</td>
<td>1.7221 mL</td>
<td>3.4443 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td></td>
<td>0.1722 mL</td>
<td>0.8611 mL</td>
<td>1.7221 mL</td>
</tr>
</tbody>
</table>

≥29.0335 mg/mL in DMSO, ≥69 mg/mL in EtOH, insoluble in H2O

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

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### Biological Activity

**Short summary**

Immunoproteasome inhibitor, potent and selective

**IC₅₀ & Target**

~10 nM (LMP7)

**Cell Viability Assay**

**Cell Line:** Human peripheral blood mononuclear (PBMC) cells  
**Preparation method:** The solubility of this compound in DMSO is >10 mM. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.  
**Reacting conditions:** 200 nM, 1 hour  
**Applications:** PBMCs were treated with 200 nM ONX-0914 for 1 hour and were exposure to 1
ng/ml LPS for 24 h. Supernatants were analyzed for expression of the inflammatory cytokines. ONX-0914 selectively inhibited LMP7 (> 80%). LMP7 inhibition blocked production of IL-23 by > 90% and of tumor necrosis factor-α (TNF-α) and IL-6 by ~ 50%. Higher concentrations of ONX-0914, which induce inhibition of LMP2 and MECL-1, further decreased secretion of TNF-α and IL-6, suggesting that these subunits have a role in cytokine regulation.

### Animal experiment

<table>
<thead>
<tr>
<th>Animal models:</th>
<th>Collagen antibody–induced arthritis (CAIA) model in BALB/c miceCollagen-induced arthritis (CIA) model in DBA1/J mice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dosage form:</td>
<td>Intravenous injection, 2, 6 and 10 mg per kg body weight</td>
</tr>
<tr>
<td>Applications:</td>
<td>ONX-0914 blocked disease progression in a dose-dependent manner and completely ameliorated visible signs of disease at the highest dose. Inhibition of LMP7 alone was sufficient to block disease progression, as evidenced by the therapeutic response to PR-957 administered at 2 mg per kg body weight. ONX-0914 treatment also induced a rapid therapeutic response in the T and B cell–dependent CIA model. Immunoproteasome inhibition was associated with a decrease in circulating levels of autoantibodies and collagen oligomeric matrix protein (COMP), a marker for cartilage breakdown.</td>
</tr>
<tr>
<td>Other notes:</td>
<td>Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.</td>
</tr>
</tbody>
</table>

### Product Citations


See more customer validations on [www.apexbt.com](http://www.apexbt.com).

### References


### Caution
FOR RESEARCH PURPOSES ONLY.
NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APExBIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Short-term storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

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