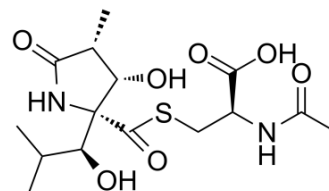


## Lactacystin

Cat. No.:	HY-16594
CAS No.:	133343-34-7
Molecular Formula:	C <sub>15</sub> H <sub>24</sub> N <sub>2</sub> O <sub>7</sub> S
Molecular Weight:	376.43
Target:	Proteasome
Pathway:	Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the COA.



### BIOLOGICAL ACTIVITY

<b>Description</b>	Lactacystin, an antibiotic Streptomyces spp. metabolite, is a potent and selective <b>proteasome</b> inhibitor with an IC <sub>50</sub> of 4.8 μM for 20S proteasome. Lactacystin also inhibits the lysosomal enzyme cathepsin A <sup>[1]</sup> . Lactacystin inhibits cell growth and induces neurite outgrowth <sup>[2]</sup> .								
<b>IC<sub>50</sub> &amp; Target</b>	IC50: 4.8 μM (proteasome) <sup>[1]</sup>								
<b>In Vivo</b>	Lactacystin (microinjection; 2 μg) induces a Parkinson's disease-like motor phenotype 5-7 days after injection in young and adult mice <sup>[2]</sup> . <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #f2f2f2;"><b>Animal Model:</b></td> <td>Male C57Bl/6RcHsd mice with 8-9 weeks (young) and 12-14 months (adult) old<sup>[2]</sup></td> </tr> <tr> <td style="background-color: #f2f2f2;"><b>Dosage:</b></td> <td>2 μg</td> </tr> <tr> <td style="background-color: #f2f2f2;"><b>Administration:</b></td> <td>Microinjection</td> </tr> <tr> <td style="background-color: #f2f2f2;"><b>Result:</b></td> <td>Induced a Parkinson's disease-like motor phenotype 5-7 days after injection in young and adult mice.</td> </tr> </table>	<b>Animal Model:</b>	Male C57Bl/6RcHsd mice with 8-9 weeks (young) and 12-14 months (adult) old <sup>[2]</sup>	<b>Dosage:</b>	2 μg	<b>Administration:</b>	Microinjection	<b>Result:</b>	Induced a Parkinson's disease-like motor phenotype 5-7 days after injection in young and adult mice.
<b>Animal Model:</b>	Male C57Bl/6RcHsd mice with 8-9 weeks (young) and 12-14 months (adult) old <sup>[2]</sup>								
<b>Dosage:</b>	2 μg								
<b>Administration:</b>	Microinjection								
<b>Result:</b>	Induced a Parkinson's disease-like motor phenotype 5-7 days after injection in young and adult mice.								

### REFERENCES

[1]. Csizmadia V, et al. Effect of proteasome inhibitors with different chemical structures on the ubiquitin-proteasomesystem in vitro. Vet Pathol. 2010 Mar;47(2):358-67.

[2]. Savolainen MH, et al. Nigral injection of a proteasomal inhibitor, lactacystin, induces widespread glial cell activationand shows various phenotypes of Parkinson's disease in young and adult mouse. Exp Brain Res. 2017 Jul;235(7):2189-2202.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA