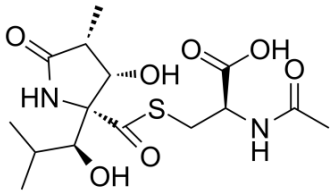
Lactacystin

Cat. No.:	HY-16594
CAS No.:	133343-34-7
Molecular Formula:	$C_{15}H_{24}N_2O_7S$
Molecular Weight:	376.43
Target:	Proteasome
Pathway:	Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Lactacystin, an antibiotic Streptomyces spp. metabolite, is a potent and selective proteasome inhibitor with an IC_{50} of 4.8 μM for 20S proteasome. Lactacystin also inhibits the lysosomal enzyme cathepsin A[1]. Lactacystin inhibits cell growth and induces neurite outgrowth[2].
IC_{50} & Target	IC50: 4.8 μM (proteasome)[1]
In Vivo	Lactacystin (microinjection; 2 μg) induces a Parkinson's disease-like motor phenotype 5-7 days after injection in young and adult mice[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male C57Bl/6RccHsd mice with 8-9 weeks (young) and 12-14 months (adult) old[2]
Dosage:	2 μg
Administration:	Microinjection
Result:	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.

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