Data Sheet (Cat.No.TP1961L)

TargetMol

PR 39 (porcine) acetate

Chemical Properties

CAS No. :

Formula:

Molecular Weight:

Storage: Keep away from moisture
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	PR 39 (porcine) acetate is a noncompetitive, reversible and allosteric proteasome inhibitor. PR 39 (porcine) acetate reversibly binds to the α7 subunit of the proteasome and blocks degradation of NF-κB inhibitor IκBα by the ubiquitin-proteasome pathway.
Targets(IC50)	Proteasome,Antibacterial
In vitro	PR-39 (100 nM) blocks TNF-α-induced (1 ng/mL; for 20 minutes) activation of VCAM-1 (2 hours) and ICAM-1 (8 hours) expression in human umbilical vein endothelial cells (HUVEC)[2]. PR-39 (10 μM) does not affect the ability to proliferate of ECV304 cell. PR39 is able to inhibit IκBα degradation without significantly affecting overall protein degradation in cells[2].
In vivo	PR-39 stimulates angiogenesis, inhibits inflammatory responses and significant reduces myocardial infarct size in mice. PR-39 (10 mg/kg, intravenously; 1 hour before Caerulein of 50μg/kg, ip) blocks IκBα degradation and NF-κB-dependent transcription in the mouse pancreas after induction of acute pancreatitis. PR-39 (1 μg/kg/day; 7-day intraperitoneal infusion) demonstrates significantly small infarct in C57BL/6 mice[2].

Reference

Maria Gaczynska, et al. Proline- and arginine-rich peptides constitute a novel class of allosteric inhibitors of proteasome activity. Biochemistry. 2003 Jul 29;42(29):8663-70.
Y Gao, et al. Inhibition of ubiquitin-proteasome pathway-mediated I kappa B alpha degradation by a naturally occurring antibacterial peptide. J Clin Invest. 2000 Aug;106(3):439-48.

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