Antimicrobial agent-7

Cat. No.: HY-151401

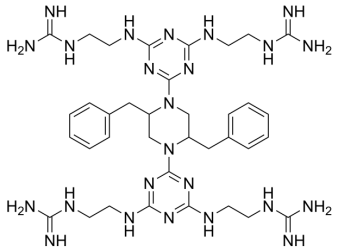
Molecular Formula: $C_{36}H_{56}N_{24}$

Molecular Weight: 824.99

Target: Bacterial

Pathway: Anti-infection

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Antimicrobial agent-7 (Compound 12) is a potent antimicrobial agent, and shows potent antimicrobial activity with an MIC range of 2-8 μg/mL against Gram-negative and Gram-positive bacteria. Antimicrobial agent-7 shows anti-inflammatory activity against lipopolysaccharide-induced inflammation[1].

In Vitro

Antimicrobial agent-7 (2.8-56.4 μM; 24 h) inhibits Gram-negative bacteria and Gram-positive bacteria growth[1].
Antimicrobial agent-7 (5 and 20 μg/mL; 18 h) inhibits the production of nitric oxide (NO) and tumor necrosis factor-α (TNF-α) by lipopolysaccharide-stimulated in RAW 264.7 cells[1].
Antimicrobial agent-7 exhibits proteolytic resistance and salt/serum stability[1].
Antimicrobial agent-7 displays synergistic or additive effects when combined with selected clinically used antibiotics[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	E. coli [KCTC 1682], P. aeruginosa [KCTC 1637], S. epidermidis [KCTC 1917] and S. aureus [KCTC1621]
Concentration:	2.8-56.4 μM
Incubation Time:	24 hours
Result:	Inhibited Gram-negative bacteria with MIC values of 17.7 and 4.8 μM for E. coli [KCTC 1682] and P. aeruginosa [KCTC 1637], respectively. Inhibited Gram- positive bacteria with MIC values of 4.8 μM for S. epidermidis [KCTC 1917] and S. aureus [KCTC1621].

Cell Viability Assay[1]

Cell Line:	RAW 264.7 macrophages
Concentration:	5 and 20 μg/mL
Incubation Time:	18 hours
Result:	Observed LPS-stimulated production of NO with an inhibitory rate of 68.09% at 5 μg/mL. Exhibited inhibitory effects on the LPS-stimulated production of TNF-α with an inhibitory rate of 99.83% at 20 μg/mL.

REFERENCES

[1]. Dinesh Kumar S, et al. Cationic, amphipathic small molecules based on a triazine-piperazine-triazine scaffold as a new class of antimicrobial agents. Eur J Med Chem. 2022 Sep 8;243:114747.

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