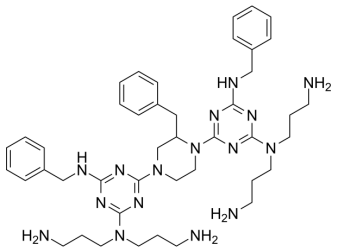
Antimicrobial agent-9

Cat. No.:	HY-151403
CAS No.:	2978694-25-4
Molecular Formula:	$C_{43}H_{62}N_{16}$
Molecular Weight:	803.06
Target:	Bacterial
Pathway:	Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Antimicrobial agent-9 (Compound 16) is an antimicrobial agent with an MIC range of 4-8 μg/mL against gram-positive and gram-negative bacteria. Antimicrobial agent-9 also shows anti-inflammatory activity[1].

In Vitro

Antimicrobial agent-9 (Compound 16) (0-256 μg/mL; 18-24 h) shows antibacterial activity with geometric mean (GM) values of the MICs of 4.5 μg/mL[1].

Antimicrobial agent-9 shows minimum hemolytic concentration (MHC) of >256 μg/mL, the therapeutic index is 113.8[1].

Antimicrobial agent-9 (5 or 20 μg/mL; 18 h) effectively inhibits the release and expression of NO and TNF-α from LPS-stimulated RAW 264.7 cells[1].

Antimicrobial agent-9 is resistant to various physiological salts, human serum, and proteases[1].

Antimicrobial agent-9 exhibits synergistic antimicrobial activity in combination with three conventional antibiotics (Chloramphenicol (HY-B0239), Ciprofloxacin (HY-B0356), and oxacillin) against MDRPA and MRSA, is promising adjuvants in combination with 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:	0-256 μg/mL
Incubation Time:	18-24 h
Result:	Inhibited bacterial growth with MICs of 4, 8, 4 and 2 μg/mL against E. coli [KCTC 1682], P. aeruginosa [KCTC 1637], S. epidermidis [KCTC 1917] and S. aureus [KCTC1621], respectively.

Cell Viability Assay[1]

Cell Line:	LPS-stimulated RAW 264.7 macrophages
Concentration:	5 μg/mL (for NO/iNOS) and 20 μg/mL (for TNF-α)
Incubation Time:	18 h
Result:	Effectively inhibited the production and expression of NO and TNF-α from LPS-stimulated

	RAW 264.7 cells.

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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