Tigecycline hydrate

Cat. No.: HY-B0117D

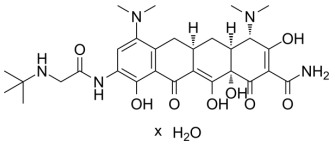
CAS No.: 1229002-07-6

Molecular Formula: $C_{29}H_{39}N_5O_8.xH_2O$

Target: Bacterial; Autophagy; Antibiotic

Pathway: Anti-infection; Autophagy

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



BIOLOGICAL ACTIVITY

Description

Tigecycline (GAR-936) hydrate is a broad-spectrum glycylcycline antibiotic. The mean inhibitory concentration (MIC) of Tigecycline hydrate for E. coli (MG1655 strain) is approximately 125 ng/mL[1]. MIC_{50} and MIC_{90} are 1 and 2 mg/L for Acinetobacter baumannii (A. baumannii), respectively[2].

In Vitro

Tigecycline (0.63-30 μM, preincubated for 4 days, treated for 72 h) hydrate inhibits AML2 cells and HL-60 cells with IC_{50}s of 4.72 and 3.06 μM (freshly prepared)[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	Human leukemic OCI-AML2, HL-60 (ATCC) and TEX cell lines
Concentration:	0.63-30 μM
Incubation Time:	Preincubated for 4 days, treated for 72 hours
Result:	Inhibited AML2 cells and HL-60 cells with IC_{50}s of 4.72 and 3.06 μM (freshly prepared).

In Vivo

Tigecycline (50 mg/kg; intraperitoneal injection; twice a day; for 11 days) hydrate reduces tumor volume and weight in NOD/SCID mice[1].

The peak plasma concentration (C_{max}), the terminal half-life ($t_{1/2}$), area under the plasma concentration-time curve (AUC), clearance (CL) and volume of distribution (Vz) are 22.8μg/mL, 108.9 min, 1912.2min*μg/mL, 26.1 mL/min/kg, 4109.4 mL/kg for Tigecycline hydrate in saline, respectively[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	NOD/SCID mice with OCI-AML2 acute myeloid leukemia (AML) xenograft model[1]
Dosage:	50 mg/kg
Administration:	Intraperitoneal injection; twice a day; for 11 days
Result:	Reduced tumor volume and weight.

Animal Model:	NOD/SCID mice[1]
Dosage:	50 mg/kg
Administration:	Intraperitoneal injection; 360 minutes
Result:	The peak plasma concentration (C_{max}), the terminal half-life ($t_{1/2}$), area under the plasma concentration-time curve (AUC), clearance (CL) and volume of distribution (Vz) are 22.8 μg/mL, 108.9 min, 1912.2 min*μg/mL, 26.1 mL/min/kg, 4109.4 mL/kg, respectively.

CUSTOMER VALIDATION

- Nat Commun. 2022 Mar 2;13(1):1116.
- EBioMedicine. 2022 Apr;78:103943.
- Antimicrob Agents Chemother. 2019 May 24;63(6). pii: e00470-19.
- Int J Antimicrob Agents. 2018 Aug;52(2):269-271.
- Infect Drug Resist. 2021 Jun 30;14:2499-2507.

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REFERENCES

[1]. Jitkova Y, et al. A novel formulation of tigecycline has enhanced stability and sustained antibacterial and antileukemic activity. PLoS One. 2014 May 28;9(5):e95281.

[2]. Falagas ME, et al. Activity of TP-6076 against carbapenem-resistant Acinetobacter baumannii isolates collected from inpatients in Greek hospitals. Int J Antimicrob Agents. 2018 Aug;52(2):269-271.

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