

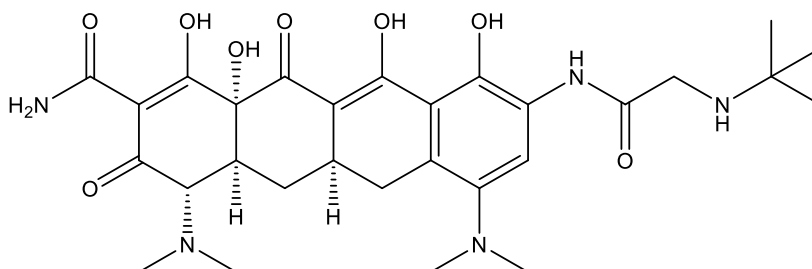
Catalog # 10-3900

Tigecycline

CAS# 220620-09-7

9-t-Butylglycylamidominocycline; (4S,4aS,5aR,12aR)-9-[[2-(tert-Butylamino)acetyl]amino]-4,7-bis(dimethylamino)-1,10,11,12a-tetrahydroxy-3,12-dioxo-4a,5,5a,6-tetrahydro-4H-tetracene-2-carboxamide; GAR-936

Lot # FBS2021



Tigecycline is a clinically useful antibiotic.^{1,2} It is a glycylicycline derivative of minocycline that binds to the 30S ribosomal subunit of bacteria blocking the interaction of aminoacyl-tRNA with the ribosome. Tigecycline is active against Gram-positive and -negative bacteria, anaerobic bacteria and drug resistant bacteria such as MRSA, MRSE, and VRE. Tigecycline has also been shown to be selectively toxic to human acute myeloid leukemia cells over normal hematopoietic cells *via* inhibition of mitochondrial protein translation.³ It has also been found to be effective against other cancers including non-small cell lung cancer⁴, melanoma⁵, lymphoma⁶, and osteosarcoma⁷.

- 1) Greer (2006) *Tigecycline (Tygacil): the first in the glycylicycline class of antibiotics*; Proc. (Bayl. Univ. Med. Cent.) **19** 155
- 2) Peterson (2008) *A review of tigecycline – the first glycylicycline*; Int. J. Antimicrob. Agents **32 Suppl 4** S215
- 3) Skrtic *et al.* (2011) *Inhibition of mitochondrial translation as a therapeutic strategy for human acute myeloid leukemia*; Cancer Cell **20** 674
- 4) Jia *et al.* (2016) *Tigecyclin targets nonsmall cell lung cancer through inhibition of mitochondrial function*; Fundam. Clin. Pharmacol. **30** 297
- 5) Hu *et al.* (2016) *Antibiotic drug tigecycline inhibits melanoma progression and metastasis in a p21CIP1/Waf1-dependent manner*; Oncotarget **7** 3171
- 6) D'Andrea *et al.* (2016) *The mitochondrial translational machinery as a therapeutic target in Myc-driven lymphomas.*; Oncotarget **7** 72415
- 7) Chen *et al.* (2019) *Inhibition of mitochondrial translation selectively targets osteosarcoma*; Biochem. Biophys. Res. Commun. **515** 9

PHYSICAL DATA

Molecular Weight: 585.66
Molecular Formula: C₂₉H₃₉N₅O₈
Purity: >98% by HPLC
NMR: (Conforms)
Solubility: DMSO (>25 mg/ml)
Physical Description: Orange solid
Storage and Stability: Store as supplied at -20°C for up to 1 year from the date of purchase. Solutions in DMSO may be stored at -20°C for up to 1 month.

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