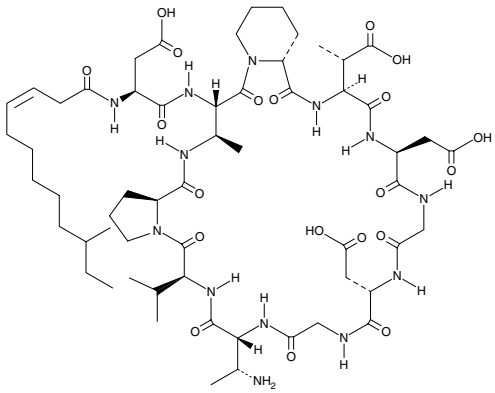
Product Information

Amphomycin

Item No. 17091

CAS Registry No.: 1402-82-0
Formal Name: 2,2'-((6S,9R,15S,21S,24S,26aR,33S,34R, 36aS)-9-((R)-1-aminoethyl)-33-((2S)-3-carboxy-2-((Z)-10-methyldodec-3-enamido) propanamido)-24-((S)-1-carboxyethyl)-6-isopropyl-34-methyl-5,8,11,14,17,20,23,26,32,36-decaoxotetratriacontahydro-1H,5H-pyrido[1,2-a] pyrrolo[1,2-y][1,4,7,10,13,16,19,22,25,28] decaazacyclohentriacontine-15,21-diyl)diacetic acid
MF: $C_{58}H_{91}N_{13}O_{20}$
FW: 1,290.4
Purity: ≥95%
Stability: ≥2 years at -20°C
Supplied as: An off-white to fawn solid



Laboratory Procedures

For long term storage, we suggest that amphomycin be stored as supplied at -20°C. It should be stable for at least two years.

Amphomycin is supplied as an off-white to fawn solid. A stock solution may be made by dissolving the amphomycin in the solvent of choice. Amphomycin is soluble in organic solvents such as ethanol, DMSO, dimethyl formamide, and methanol which should be purged with an inert gas.

Amphomycin is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Amphomycin is a natural antibacterial lipopeptide first isolated from *S. canus*. Lipopeptides are cyclic depsipeptides with a peptidyl side chain capped with a saturated alkyl tail.[1] They preferentially target Gram-positive bacteria and may be useful against drug resistant strains.[1] Amphomycin is also an inhibitor of peptidoglycan synthesis in both bacterial and mammalian systems, as it binds with phosphorylated substrates in a calcium-dependent manner.[2-5]

References

1. Fair, R.J. and Tor, Y. Antibiotics and bacterial resistance in the 21st century. *Perspect. Medicin. Chem.* **6**, 25-64 (2014).
2. Spencer, J.P. and Elbein, A.D. Transfer of mannose from GDP-mannose to lipid-linked oligosaccharide by soluble mannosyl transferase. *Proc. Natl. Acad. Sci. USA* **77(5)**, 2524-2527 (1980).
3. Kang, M.S., Spencer, J.P., and Elbein, A.D. Amphomycin inhibition of mannose and GlcNAc incorporation into lipid-linked saccharides. *J. Biol. Chem.* **253(24)**, 8860-8866 (1978).
4. Banerjee, D.K. Amphomycin inhibits mannosylphosphoryldolichol synthesis by forming a complex with dolichylmonophosphate. *J. Biol. Chem.* **264(4)**, 2024-2028 (1989).
5. Cooper, H.N., Gurcha, S.S., Nigou, J., *et al.* Characterization of mycobacterial protein glycosyltransferase activity using synthetic peptide acceptors in a cell-free assay. *Glycobiology* **12(7)**, 427-434 (2002).

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