

PRODUCT INFORMATION



CAP 3

Item No. 27505

CAS Registry No.: 2292123-03-4
Formal Name: (3R,5S,7R,8R,9S,10S,12S,13R,14S,17R)-17-((R)-5-(benzyloxy)-5-oxopentan-2-yl)-10,13-dimethylhexadecahydro-1H-cyclopenta[a]phenanthrene-3,7,12-triyl tris(2-((S)-2-amino-3-methylbutanamido)acetate)

MF: C₅₂H₈₂N₆O₁₁

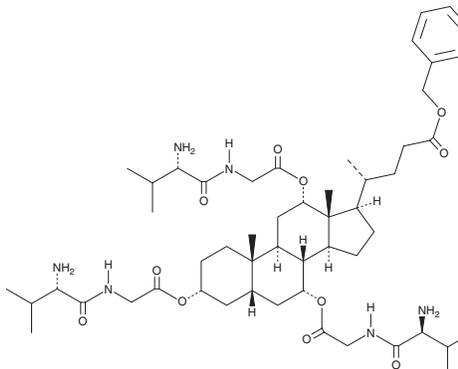
FW: 967.3

Purity: ≥98%

Supplied as: A crystalline solid

Storage: -20°C

Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

CAP 3 is supplied as a crystalline solid. A stock solution may be made by dissolving the CAP 3 in the solvent of choice, which should be purged with an inert gas. CAP 3 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of CAP 3 in ethanol and DMSO is approximately 10 mg/ml and approximately 5 mg/ml in DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of CAP 3 can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of CAP 3 in PBS, pH 7.2, is approximately 3 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

CAP 3 is a cholic acid-peptide conjugate (CAP) with antibacterial activity.¹ It is active against the Gram-negative bacteria *E. coli*, *K. pneumoniae*, and *A. baumannii* (MIC_{99s} = 8, 16, and 16 μM, respectively). CAP 3 increases the fluidity of model Gram-negative bacterial membranes and binds to LPS *in vitro*. It reduces the biomass and number of colony-forming units in *E. coli* biofilms in a concentration-dependent manner. CAP 3 inhibits *E. coli* biofilm formation on catheters implanted in mice infected with *E. coli* at the incision site when applied as a coating on the catheters. CAP 3 (40 mg/kg) also reduces bacterial load in *E. coli*-infected wounds in mice. It is cytotoxic to A459 cells (IC₅₀ = 56.4 μM) and has hemolytic activity against human red blood cells with a 50% lysis (HC₅₀) value of 48 μM.

Reference

1. Yadav, K., Kumar, S., Mishra, D., *et al.* Deciphering the role of intramolecular networking in cholic acid-peptide conjugates on the lipopolysaccharide surface in combating Gram-negative bacterial infections. *J. Med. Chem.* **62**(4), 1875-1886 (2019).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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