

# Hybrid polyketides from a *Hydractinia*-associated *Cladosporium sphaerospermum* SW67 and their putative biosynthetic origin.

Lee SR, Lee D, Eom HJ, Rischer M, Ko YJ, Kang KS, Kim CS, Beemelmans C, Kim KH (2019) Hybrid polyketides from a *Hydractinia*-associated *Cladosporium sphaerospermum* SW67 and their putative biosynthetic origin. *Mar Drugs* 17(11), 606.

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## Abstract

Five hybrid polyketides (1a, 1b, and 2–4) containing tetramic acid core including a new hybrid polyketide, cladosin L (1), were isolated from the marine fungus *Cladosporium sphaerospermum* SW67, which was isolated from the marine hydroid polyp of *Hydractinia echinata*. The hybrid polyketides were isolated as a pair of interconverting geometric isomers. The structure of 1 was determined based on 1D and 2D NMR spectroscopic and HR-ESIMS analyses. Its absolute configuration was established by quantum chemical electronic circular dichroism (ECD) calculations and modified Mosher's method. Tetramic acid-containing compounds are reported to be derived from a hybrid PKS-NRPS, which was also proved by analyzing our  $^{13}\text{C}$ -labeling data. We investigated whether compounds 1–4 could prevent cell damage induced by cisplatin, a

platinum-based anticancer drug, in LLC-PK1 cells. Co-treatment with 2 and 3 ameliorated the damage of LLC-PK1 cells induced by 25  $\mu\text{M}$  of cisplatin. In particular, the effect of compound 2 at 100  $\mu\text{M}$  (cell viability,  $90.68 \pm 0.81\%$ ) was similar to the recovered cell viability of  $88.23 \pm 0.25\%$  with 500  $\mu\text{M}$  N-acetylcysteine (NAC), a positive control.

## Involved units

[Chemical Biology of Microbe-Host Interactions Christine Beemelmans](#) [Read more](#)

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**Identifier**

**doi:** 10.3390/md17110606

**PMID:** 31653089