In vitro cytotoxicity of melleolide antibiotics: structural and mechanistic aspects.

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Abstract

Melleolide sesquiterpene aryl esters are secondary products of the mushroom genus Armillaria. We compared the cytotoxicity of eleven melleolides--five thereof are new natural products--against four human cancer cell lines. Armillaridin, 4-O-methylarmillaridin, and dehydroarmillylorsellinate were most active, at IC(50) = 3.0, 4.1 and 5.0 μM, respectively, against Jurkat T cells for the former two compounds, and K-562 cells for the latter. Dehydroarmillylorsellinate did not inhibit respiration and RNA-synthesis of K-562 cells at 5 μM. However, replication of DNA dropped to 35% after 120 min at this concentration, and translational activity also decreased.

Beteiligte Forschungseinheiten

Infektionsbiologie Peter F. Zipfel Mehr erfahren

Sekundärmetabolismus räuberischer Bakterien Mehr erfahren

Pharmazeutische Mikrobiologie Dirk Hoffmeister Mehr erfahren

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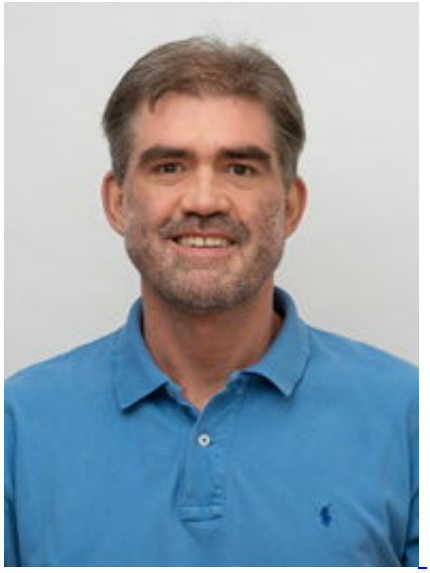
Details



Dirk Hoffmeister

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Markus Nett

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