Xiamycin, a pentacyclic indolosesquiterpene with selective anti-HIV activity from a bacterial mangrove endophyte.

Ding L, Münch J, Goerls H, Maier A, Fiebig HH, Lin WH, Hertweck C (2010) Xiamycin, a pentacyclic indolosesquiterpene with selective anti-HIV activity from a bacterial mangrove endophyte. *Bioorg Med Chem Lett* 20(22), 6685-6687.

Abstract

A novel pentacyclic indolosesquiterpene, named xiamycin (1), and its methyl ester (2) have been obtained from Streptomyces sp. GT2002/1503, an endophyte from the mangrove plant Bruguiera gymnorrhiza. The structures were established by 1D and 2D NMR, MS, and X-ray crystallography, and the absolute configuration of 1 was elucidated by the modified Mosher method. Compound 1 exhibits selective anti-HIV activity; it specifically blocks R5 but has no effects on X4 tropic HIV-1 infection. In a panel of cytotoxicity assays, compound 2 showed to be more potent (geometric mean IC(50)=10.13 μM) compared to compound 1 (geometric mean IC(50) >30 μM), with antitumor potency being generally less pronounced. Xiamycin represents one of the first examples of indolosesquiterpenes isolated from prokaryotes.

Beteiligte Forschungseinheiten

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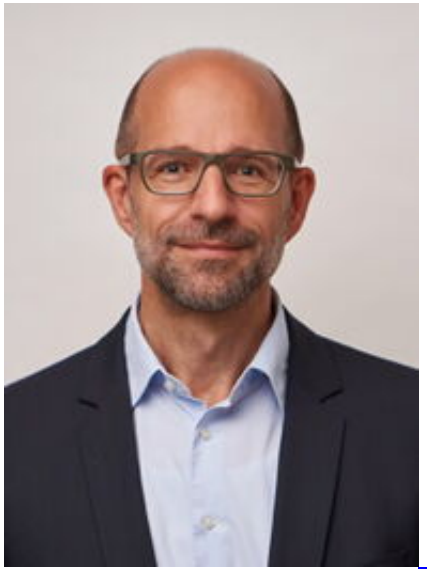

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