A New Diketopiperazine, Cyclo(D-trans-Hyp-L-Leu) from a Kenyan Bacterium *Bacillus licheniformis* LB 8CT

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Details

Abstract

Bacterially-produced small molecules demonstrate a wide range of structural and functional diversity. A new diketopiperazine, cyclo(D-trans-Hyp-L-Leu) (1), and five other known diketopiperazines (2-6), were isolated and purified from the fermented broth of a Kenyan bacterium *Bacillus licheniformis* LB 8CT. The structure of 1 was elucidated by a combination of extensive spectroscopic analyses, including 2D NMR and HR-MS, and the absolute configuration was
determined by a combination of NOESY analysis and Marfey's method. The known compounds were identified as cyclo(D-cis-Hyp-L-Leu) (2), cyclo(D-cis-Hyp-L-Phe) (3), cyclo(D-Pro-L-Tyr) (4), cyclo-(D-Trp-L-Leu) (5), and cyclo(L-Tyr-Gly) (6) by comparison of their spectroscopic and physical data with reported values. Compounds 1-6 were tested for antifungal and antimicrobial properties.

Involved units

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