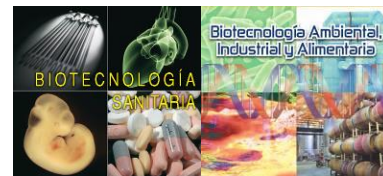

Poster

Identification and study of actinomycete strains producers of a new family of spirotetronates



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ABSTRACT

Motivation: New natural products are required to develop new antibiotics against the emergence of antibiotic-resistant pathogens. A family of three new spirotetronates with antibacterial activity against methicillin resistant *Staphylococcus aureus* (MRSA) and *Mycobacterium* was identified in a *Micromonospora* strain from MEDINA culture collection. Interrogation of the Liquid chromatography–mass spectrometry (LC-MS) database with a LC-MS fingerprint of these compounds allowed the identification of 27 strains which potentially biosynthesize these family of compounds. The aims of this study are i) to confirm the production of the spirotetronates in the 27 strains; ii) identify best fermentation conditions to maximize their productions; iii) identify possible new derivatives of this spirotetronate family in any of the strains.

Methods: The 27 strains were taxonomically identified by 16S rRNA and were subjected to fermentation in an array of 10 cultivation media. The resulting fermentation broths were extracted and the corresponding extracts analysed by LC-MS and subjected to High-throughput screening (HTS) against MRSA and *Mycobacterium*.

Results: The analysis of the LC-MS data, together with the HTS data, allowed us to identify producers of the family of spirotetronates. Moreover, the best conditions (i.e fermentation medium) for their production were established. A potential new spirotetronate derivative was also identified based in the LC-MS data.

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