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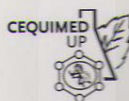
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**LIVRO DE RESUMOS**  
**BOOK OF ABSTRACTS**



**PLECTRANTHUS DITERPENES AGAINST MYCOBACTERIUM TUBERCULOSIS**P Rijo<sup>1</sup>, MF Simões<sup>1</sup>, AP Francisco<sup>1</sup>, R Rojas<sup>2</sup>, RH Gilman<sup>2</sup>, AJ Vaisberg<sup>2</sup>, C Moiteiro<sup>4</sup>, B Rodríguez<sup>3</sup><sup>1</sup>Faculdade de Farmácia, CECF/iMed.UL, Universidade de Lisboa, Lisboa, Portugal<sup>2</sup>Facultad de Ciencias y Filosofía, Universidad Peruana Cayetano Heredia, Lima, Perú.<sup>3</sup>Instituto Nacional Engenharia, Tecnologia e Inovação, I.P., DTIQ, Lisboa, Portugal<sup>4</sup>Instituto de Química Orgánica- CSIC, Madrid, España

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**Abstract**

*Mycobacterium tuberculosis* (MTB) has been responsible for human Tuberculosis disease (TB) remaining a leading cause of death worldwide on developing and developed countries. Some *Plectranthus* spp., which are largely represented in tropical Africa, are traditionally used for the treatment of respiratory complaints [1]. *In vitro* antimycobacterial activity towards MTB was found on some abietanes and particularly in royleanone derivatives [2].

An *in vitro* antimycobacterial activity study on some diterpenes extracted from *Plectranthus* sp. (*P. grandidentatus*, *P. ornatus*, *P. fruticosus*) is presented. Just four diterpenes, isolate from *P. grandidentatus* [3], showed activity being the more active the 7 $\alpha$ -acetoxy-6 $\beta$ -hydroxyroyleanone abietane. It showed a MIC value of 3.12  $\mu$ g/mL against a multidrug-resistant *Mycobacterium tuberculosis* strain (MDR) and a MIC value of 25  $\mu$ g/mL against the sensitive H<sub>37</sub>Rv *M. tuberculosis* strain. Also from this plant the royleanones 6 $\beta$ ,7 $\alpha$ -dihydroxyroyleanone, horminone and 6,7-dehydroroyleanone showed lower (MIC values  $\leq$ 12.5  $\mu$ g/mL against MDR). Apparently, in this small set of royleanones, the presence of 6,7-dioxygenated carbons on B-ring is significant for activity. It is interesting remark that the crude acetone extract of *P. grandidentatus* and the chromatographic fraction containing cited active royleanones did not present activity. Kaurane diterpenes *ent*-kaur-15-en-19-oic, *ent*-12 $\beta$ -acetoxyhydrokaur-16-en-19-oic and *ent*-7 $\beta$ -hydroxy-15 $\beta$ ,16 $\beta$ -epoxykauran-19-oic acids from *P. fruticosus* [4], as well labdanic rhinocerotinoic acid diterpene, from *P. ornatus* [3], showed no activity (MIC values  $>$ 25  $\mu$ g/mL against MDR and H<sub>37</sub>Rv strains). Since the 7 $\alpha$ -acetoxy-6 $\beta$ -hydroxyroyleanone abietane exhibited the best MIC values it may be considered as a template to prepare lipophilic derivatives aiming improve the antimycobacterial activities.

**References**

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