ISSN 0484 - 811 X
Volume LII (n.º3)
Suplemento

# Revista Portuguesa de Farmácia

Edição da Sociedade Portuguesa de Ciências Farmacêuticas

## 1.º Encontro Nacional de Química Terapêutica
## 1st National Meeting on Medicinal Chemistry

13-15 Novembro `08
PORTO, PORTUGAL

# LIVRO DE RESUMOS
# BOOK OF ABSTRACTS

Sociedade Portuguesa de Química — Divisão de Química Orgânica — Grupo de Química Terapêutica
U.PORTO — Faculdade de Farmácia — Universidade do Porto
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# TUBERCULOSTATIC ACTIVITY OF MARINE SESQUITERPENE (*S*)-(+)-CURCUPHENOL AND SEMISYNTHETIC DERIVATIVES

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**Abstract**

The human disease tuberculosis (TB) still remains a leading cause of death in the world. This is due partly to its synergy with HIV and to the emergence of multidrug and extensive drugresistance (MDR and XDR) strains of *Mycobacterium tuberculosis* [1].

Natural products continue to play a dominant role in the drug discovery for the treatment of human diseases [2]. Marine sponges are a valuable source for the search of new anti-tuberculosis agents since several sponge metabolites have been reported as tuberculostatic [3].

(*S*)-(+)-Curcuphenol and (*S*)-(+)-curcudiol are biologically active bisabolene sesquiterpenoids that have been isolated from the marine sponge *Didiscus oxeata* [4]. (*S*)-(+)-Curcuphenol exhibites a wide spectrum of activities and a recent study by Hamann *et al.* referred that phenol substituded analogs of (*S*)-(+)-curcuphenol exhibited moderated *M. tuberculosis* ($H_{37}Rv$) activity [5].

As part of an ongoing effort to discover new anti-tubercular agents from marine sponges, we report here the biological evaluation of the natural sponge sesquiterpenes (*S*)-(+)-curcudiol and (*S*)-(+)-curcuphenol, together with some curcuphenol semisynthetic derivatives [4], against the susceptible and resistant *M. tuberculosis* strains. Six out of eight sesquiterpenes tested show moderate activity (MIC 12.5-100.0 μg/mL). Our results suggested that the introduction of an oxygenated function such as epoxide or one or two hydroxyl groups in the double bound of the side chain of (*S*)-(+)-curcuphenol, decrease the antimycobacterial activity. Inversely there is an increase of *M. tuberculosis* inhibition, if the substituent is an alkoxy group. The presence of a chlorine atom at aromatic ring of (*S*)-(+)-curcuphenol does not appear to influence the growth of the *M. tuberculosis* ($H_{37}Rv$).

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**Acknowledgments**

Collaborative work was performed under the auspices of the Iberoamerican Program for Science and Technology (CYTED), Project X.1: PIBATUB.