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Abstract

Antimycobacterial Activity of New 1,4-Benzoxazine-2-One Derivatives and Its 2-(Arylamino)-4-Oxobut-2-Enoate, Ring-Open Analogues †

Daniele Zampieri [1,*], Marco Bernecich [1], Maria Grazia Mamolo [1], Adriana Sanna [2] and Alessandro De Logu [3]

[1] Department of Chemistry and Pharmaceutical Sciences, University of Trieste, P.le Europa, 1, 34127 Trieste, Italy; marco.bernecich@gmail.com (M.B.); mamolo@units.it (M.G.M.)
[2] Department of Public Health, Clinical and Molecular Medicine. University of Cagliari, Via Porcell, 4, 09124 Cagliari, Italy; adrianasanna@unica.it
[3] Department of Life and Enviromental Sciences. University of Cagliari, Via Porcell, 4, 09124 Cagliari, Italy; adelogu@unica.it
* Correspondence: dzampieri@units.it
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Menaquinone is one of the essential components of the electron transport chain in many pathogens and consequently enzymes in its biosynthesis pathway are potential drug targets for the development of novel antibacterial agents. A few years ago, Li et al. [1] identified several 1,4-benzoxazine-2-one derivatives, that target MenB (1,4-dihydroxy-2-naphtoyl-CoA synthase), endowed with high antibacterial activity against *Mycobacterium tuberculosis* $H_{37}Rv$ with MIC values of 0.6 μg/mL (4 μg/mL our data). By these assumptions, we designed and synthesized some analogous compounds in order to investigate the SAR and to discover new potent antimycobacterial derivatives. First of all, we tried to check the activity of several benzoxazine-3-one isosters and, in our case, the derivative showed low antimycobacterial activity (32–64 μg/mL), contradicting the bioisosterism principle. Then, we tried to modify the substituents on the original 1,4-benzoxazin-2-one core and we found some interesting data that will be presented. Moreover, we synthesized some 2-(arylamino)-4-oxobut-2-enoate derivatives as analogues of *O*-Succylbenzoate (OSB), a precursor in the menaquinone biosynthetic pathway.

Details on antitubercular activity will be presented.

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