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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 †

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† Presented at the 1st Molecules Medicinal Chemistry Symposium, Barcelona, Spain, 8 September 2017.

Published: 18 October 2017

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.

Acknowledgments: The financial support of FRA 2016 (owner: Daniele Zampieri) Research Fund University of Trieste-Italy, is gratefully acknowledged.

Author Contributions: All authors contribute equally to the research and the writing of the manuscript.

Conflicts of Interest: The authors declare no conflict of interest.

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