



Federation of European
Microbiological Societies

FEMS Online Conference on Microbiology

28 – 31 October 2020

ELECTRONIC ABSTRACT BOOK

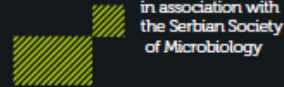
in association with
the Serbian Society
of Microbiology





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Message from the organizers

Dear colleagues and friends,

We would like to cordially greet you at the end of the FEMS 2020 ONLINE Conference on Microbiology, that has been successfully organized at the end of October 2020.

One great idea became reality. It would not have been possible without all of you, for which we are grateful.

A pioneering endeavor in many different aspects and in challenging times. First, as a first Conference of the kind in the FEMS history, planned as a middle sized event, oriented in parallel to regional and global audiences, both in terms of content delivery and participation and an event done in partnership with the national/regional association and the dedicated PCO. Second, as a first major Conference event fully organized as an ONLINE format in European microbiology in 2020. Third, as the first major FEMS Conference event organized in complex times, with numerous challenging, even adverse psychological, societal and economic effects for the whole professional community, and, in addition, microbiologists being the one of the few medical professions directly standing in the front line of the COVID-19 response.

We made a brave decision and it paid off. With the new world of ONLINE possibilities, we strive and succeed to organize the most suitable formats to cover the scientific content of the conference, discuss the most challenging topics of the day and to enable scientific exchange and the interaction with the participants in a safest possible manner.

We are happy to say that, despite all different complexities, overall results of the Conference and the whole concept went beyond our bravest expectation. Almost 700 microbiologists from 40 European countries and another 20 worldwide, making the ONLINE Conference global event, eight scientific sessions, including one session with best selected grantees presentations and four Symposiums, organized in two parallel streams, four plenary lectures and COVID-19 Round Table for the whole audience, total of over 70 invited lectures with prerecorded lectures. In addition, over 50 prerecorded presentation prepared by participants-authors in the main program, in 7 corresponding ORAL ONLINE sessions, all together more than 30 hours of prerecorded material. Finally, another 60 video presentations, over 400 e-posters and some 10 Company materials, in total almost 600 presentational items, uploaded on the Conference ONLINE platform and accessible to participants until the 27. October 2021.

As FEMS, we are delighted that we were able to put together a great scientific program and contribute to the Conference success. Moreover, in light of the challenging times we live in and all different complexities it entails, and also to support your enthusiasm and scientific rigour, we decided to support your effort by waiving conference fees for the ONLINE Conference for almost 300 colleagues, authors of scientific papers, submitted until 15. March 2020.

Despite the circumstances, the pharmaceutical and medical industry has been with the Conference, providing valuable support and building solid basis for broader future collaboration.

We sincerely hope that you also enjoyed all different contents and aspects of the Conference and that you would be able to catch up with those recordings and presentations you may have missed or have a detailed look at posters.

We would like to warmly wish you health, love and happiness, Merry Christmas and a Happy New Year and are looking forward to the new encounters, in the next occasion, FEMS 2022 Conference in Belgrade.

Sincerely

Prof. dr Vaso Taleski, Chair, COC
Director of Events & Internationalization, FEMS

Prof. dr Hilary Lappin Scott
FEMS President

Prof. dr Bauke Oudega, Chair, CSC
FEMS Past President

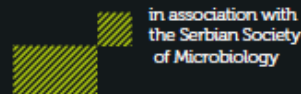
Prof. dr Lazar Ranin, Co-chair, COC
Vice President, SSM

Prof. dr Dragojlo Obradović, Co-chair, CSC
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COMBINED EFFECT OF VANKOMYCIN AND EMODIN ON STAPHYLOCOCCUS AUREUS MSSA AND MRSA ISOLATES

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Background: Staphylococcus aureus is the most common cause of acute, chronic and nosocomial biofilm-associated infections. According to increasing antibiotic resistance, combination of natural products and antibiotics could be considered as promising strategy against persistent infections.

Objectives: The main goal was to investigate combined effect of vankomycin (V) and emodin isolated from Frangula alnus bark (E) on biofilm formation of two clinical isolates of S. aureus, derived from wound (Gp41, MSSA) and blood culture (Gp29, MRSA). The effect on bacterial respiration was also monitored.

Methods: In order to determine minimal inhibitory concentrations (MICs) of single and combined treatments microdilution and checkerboard assays were applied. The effect against biofilm formation was investigated by crystal violet (CV) staining of biofilm biomass. O₂ consumption and CO₂ production in treated and untreated bacterial suspensions was monitored using Micro-Oxymax respirometer.

Results: Based on the microdilution and checkerboard assays concentrations that should be combined in screening of antibiofilm activity and respiration were selected. Tested combinations were 3.125 µg/mL and 0.156 µg/mL (Gp41), and 3.125 µg/mL and 0.078 µg/mL (Gp29), of E and V, respectively. Biofilm formation of both strains was inhibited by combined treatments (up to 89%). Test substances disturb respiration of both strains, but mode of action was not the same in tested strains. While combined treatment of Gp41 strain decreased respiration highly than any of single treatments, inhibition obtained in combined and E treatments of Gp29 strain were almost the same. Obtained results encourage further investigation, especially on preformed biofilms and respiration inside them



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