



Trends in **Molecular Biology** • Special issue

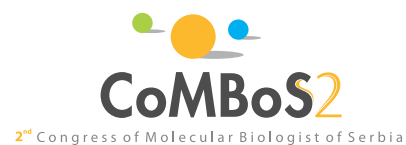
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2nd Congress of Molecular Biologist of Serbia

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WELCOME SPEECH



Professor Dušanka **Savić-Pavićević**
President of the Serbian Society
for Molecular Biology



Dr. Melita **Vidaković**
President of the Steering Committee
of the Serbian Society for Molecular Biology

Dear colleagues and friends,

On behalf of the Serbian Society for Molecular Biology (MolBioS), we warmly welcome you to Belgrade for the Second Congress of Molecular Biologists of Serbia (CoMBoS2).

The congress is gathering almost 250 participants from 13 countries (Sweden, United Kingdom, Italy, Switzerland, USA, Australia, Hungary, Czech Republic, Romania, Montenegro, Croatia, Bosnia and Herzegovina, and Serbia).

The program covers various fields of Molecular Biology, including Molecular Biomedicine, Molecular Biotechnology and Molecular Cell Biology, and consists of plenary and invited lectures, the MolBioS award winner lecture, poster sessions and the project corner. Special attention is paid to students and young scientists through the MolBioS Student Session, flash presentations and workshops on state-of-the-art molecular biology methods.

We wish you to be inspired by exciting and outstanding lectures given by renowned scientists and experts, exchange ideas, find opportunities for new collaborations, and have good fun.

WELCOME TO



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BIOCTA: NOVEL APPROACH TO BIOCONTROL OF RECENTLY DESCRIBED PLANT TUMOROGENIC *RHIZOBIUM* SPP. USING AUTOCHTHONOUS MICROBIAL SOLUTIONS

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Introduction: A novel group of *Rhizobium* spp. strains belonging to the “tumorigenes” clade has recently been described on blackberry in Serbia and Germany and on rhododendron in Germany. The BIOCTA project aimed to characterize efficient plant-associated bacterial strains for biocontrol of crown gall, thus providing an environmentally friendly alternative to pesticides that would contribute to the development of sustainable agriculture.

Methods: Antagonistic potential of 37 biocontrol strains against two *R. tumorigenes* strains 932 and 1078 and *Rhizobium* sp. strain rho-6.2 was evaluated *in vitro* using the “well diffusion” method, as well as *in vivo* on tomato plants, using two inoculation strategies (co-inoculation and preventive). DNA metabarcoding approach was used to analyze the phytobiome of treated and non-treated tomato plants.

Results: Based on the determined *in vitro* antagonistic potential, seven strains – *Bacillus* spp. (*B. amyloliquefaciens* ID084 and GT28.3, *B. velezensis* X5-2, and *B. subtilis* GD1), *Pseudomonas* sp. (R-6.10 and R11-20) and *Agrobacterium rosae* rho-6.1 were selected for further *in vivo* experiments. Of all tested strains/treatments, two *Pseudomonas* strains were the most efficient, showing up to 92.86% efficacy in suppressing tumors caused by *Rhizobium* sp. strain rho-6.2 when applied in a co-inoculation strategy. Based on the DNA metabarcoding analysis, genera *Pseudolabrys* and *Asanoa* prevailed in the co-inoculation strategy, while *Allorhizobium-Neorhizobium-Pararhizobium-Rhizobium* prevailed in positive control.

Conclusion: Crown gall tumors have shown to be a valuable source of antagonistic isolates. *Pseudomonas* strains R-6.10 and R11-20 could be proposed for the efferent control of crown gall caused by newly described *Rhizobium* spp. strains in nurseries.

Key words: crown gall; *Rhizobium*; biocontrol; DNA metabarcoding

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