

8th World congress on**BIOAVAILABILITY & BIOEQUIVALENCE: PHARMACEUTICAL R & D SUMMIT**

June 26-27, 2017 San Diego, USA

Agrobacterium: a Suitable Genetic System for analysis resistance to xenorhabdus antimicrobial peptide complexes extremely active in food spoilage (zoonic) bacteria**Andras Fodor**

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Increasing challenge n prevention and control in microbial (zoonic) pathogens in foods. The aim of this work is to establish a suitable experimental system for genetic analysis of antimicrobial peptide-resistance in a genetically well-characterized Gram-negative target, and found *Agrobacterium tumefaciens*. Intentionally, not a single but a multiple antimicrobial peptide-complex (EMA_PF2, isolated from *Xenorhabdus budapestensis*, with a reproducible MALDI profile), was chosen as a model to be bio-assayed in liquid cultures. Antimicrobial activity of EMA_PF2 is demonstrated on t Gram-positive *Rhodococcus equi*, *Erysipelothrix rhusiopathiae*, *Staphylococcus aureus*, *Streptococcus equi*, *Corynebacterium pseudotuberculosis*, and *Listeria monocytogenes*) and Gram negative *Salmonella Gallinarum*, *Salmonella Derby*, *Bordetella bronchiseptica*, *Escherichia coli*, *Pasteurella multocida*, *Aeromonas hydrophila* strains including multi-resistant ones. *A. tumefaciens* A281 strain with C58 chromosome (originated from a nopaline-catabolizing strain) and intact (transfer-DNA, T-DNA carrying) pTiBo542 plasmid (with agropine (L, L, -succinamopine) catabolizing genes) proved fully resistant to EMA_PF2; while the studied disarmed (transfer-DNA-deleted, del-T-DNA) plasmid-harboring derivatives (AGL1; EHA105 and A4T) were fully sensitive. By contrast, all 5 examined pTi58-plasmid-cured derivatives of C58 nopaline-catabolizing strains proved resistant to EMA_PF2. Two octopine-catabolizing strains behaved differently. *Agrobacterium* strains sensitive to EMA_PF2, harboring disarmed pTiBo542 provide a system for genetic complementation analysis of resistance to antimicrobial peptides using complementary sequences from resistant strains.

Biography

Present position: Retired from Senior Research Associate position from the University of Pannonia, Georgikon Faculty, Department of the Animal Sciences & Animal Breeding. Diploma: Geneticist – biologist & Teacher Certification for High School, 234/1964 PhD: Committee for Doctoral Awards of the Hungarian Academy of Sciences, October 7, 1974, Budapest, Hungary; PhD: Candidate of Biological Sciences; (No. 6.162). Biological Doctor's Degree: D-1674/1974, Eötvös Loránd University, Budapest, Hungary, December 3, 1974. Habilitation: Habilitation Committee of the Eötvös Loránd University, Budapest, Hungary, December 13, 2000, Budapest, Hungary. Széchenyi Professorship Award: March 19, 1999, Hungarian Ministry of Education Fulbright Research Grant, a Fulbright Grant Biological Science Grant (1214102) and funds from Valent Biosciences, both awarded to András Fodor to conduct research in the lab of Heidi Goodrich-Blair at the University of Wisconsin-Madison, USA, 2015.

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