

Research & Services | Interactions of Pathogenic Bacteria with Infected Host (Yissum)

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[Ilan Rosenshine](#), HUJI, Faculty of Medicine, Molecular biology

Biological/physical interactions of pathogenic bacteria, especially mechanism of protein injection

Categories

Life Sciences and Biotechnology, Medicine

Ilan Rosenshine's Lab (IRL), Department of Microbiology and Molecular Genetics, The Institute for Medical Research Israel-Canada IMRIC, Faculty of Medicine

Research Capabilities

Research in the lab is focused on identifying bacterial proteins that subvert the function of the host cell, particularly of the immune system. We also study how these proteins can be used for therapy. We also investigate how the bacteria deliver these proteins into mammalian cells and how this system can be used as a new drug-delivery system. The bacterial injection system itself can be used as a target for antibiotic development

Advantages

We already have identified four anti-inflammatory proteins. These finding and others related to the usage of these proteins to block inflammation is now in a process of patenting. A unique research capability is a novel high-throughput system for real-time analysis of protein injection into cells by the bacteria. Additional expertise includes genetic manipulations and of pathogenic bacteria and engineering of non-virulent strains.

Research Background

We have a strong program aiming at the identification and usage of anti-inflammatory proteins and other proteins that interferes with signal transduction in mammalian cells and thus might have therapeutically value. A second program that we have is focusing on bacterial mechanism of protein injection into the infected host cell and in using this system for effective delivery of beneficial proteins into intestinal cells with the ultimate goal of developing new type of probiotic bacteria.

Researcher and Research Interests

[Professor Ilan Rosenshine](#), Chairperson, Department of Microbiology and Molecular Genetics, Faculty of Medicine. Professor Rosenshine is the Head of the Department of Microbiology and Molecular Genetics in the Faculty of Medicine's Institute for Medical Research Israel-Canada (IMRIC). He is a microbiologist, an expert in the analysis of host-microbe interaction, the author of over seventy scientific articles, and the recipient of numerous awards including the TEVA Joshua Kolberg Prize, the Golda Meir Lecturer Award. Professor Rosenshine serves as a Fellow of the Israel Ministry of Science.

Laboratory Contact

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