



האוניברסיטה העברית בירושלים
הפקולטה לחקלאות, מזון וסביבה ע"ש רוברט ה. סמית
המכון לביוכימיה, מדעי המזון והתזונה



Ron Piran, PhD

CIRM Postdoctoral fellow at
Sanford-Burnham Medical Research Institute

<http://goo.gl/IPAqkx>

Title:

PAR2: a Passe-Partout for Regeneration, Transdifferentiation, and Death in Diabetes and Much More

המפגש יתקיים

ביום ב', 22 דצמבר 2014, בשעה 9:00

מועדון סגל

(12/22/2014, 9:00, Faculty Club)

Abstract:

According to the World Health Organization, 350 million people suffer from diabetes. From which 90% suffer from type II diabetes that is highly related to obesity and unhealthy diets. Cell and tissue damage, particularly to the pancreatic β -cells, is a fundamental aspect of diabetes, being caused by nutritional associated factors in type II and by β -cell autoimmunity in type I. Therefore, promoting β -cell regeneration has been a major focus of diabetes research. The ability of a tissue to regenerate after injury is fundamental to organismal survival, but the mechanisms by which cells sense and respond to injury remain poorly understood. We have found that β -cell proliferation is promoted by antagonizing the transcription factor HNF4- α , which is naturally regulated by fatty acids. Our recent findings show that the Protease-Activated Receptor 2 (PAR2), a G-protein-coupled receptor, is both necessary and sufficient to drive α - to β -cell transdifferentiation in the setting of β -cell ablation, that it is required to protect β -cells from apoptosis, and that it is highly modulated in human and murine type I diabetes. Furthermore, we showed that PAR2 is required for regeneration following liver and digit injury, and that it may play a broad role in autoimmunity, as in addition to its role in autoimmune diabetes it is required for the generation of an inflammatory response in a model of autoimmune hepatitis. These studies reveal a previously unsuspected role for PAR2 in tissue regeneration and provide a pharmacologically relevant target to induce regeneration in a number of disease states, including autoimmunity.

סגל וסטודנטים מוזמנים להשתתף

לתיאום פגישה: yaelf@savion.huji.ac.il