

Specific Aims

My overall hypothesis is that epithelial-regulated oral mucosal homeostasis is disrupted in type 1 diabetes (T1D) which is secondarily exacerbated by hyperglycemic conditions. The objectives of the R01 proposal are to characterize the role of epithelial cells in mucosal tolerance and to identify alterations in epithelial cell-regulated homeostatic mechanisms in T1D. While I have established novel *ex vivo* T1D models, *in vivo* T1D models which can be used to achieve these objectives are currently not available. Therefore, tools and proof of principle data generated by this seed grant proposal would be used in support of Specific Aim 3 of the amended R01 application.