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Title:

The Architecture of the Islets of Langerhans

Abstract:

What determines the range of islet sizes observed in nature and the distribution of beta and alpha cells within each islet? Results on the dynamics of the islet size distribution in development, obtained using novel large-scale imaging data obtained by the Hara laboratory, will be presented. The study of islet architecture has led us to hypothesize that islet morphology differences between species may be due to species-specific endocrine cell fractions, rather than species-specific cell-cell adhesion properties. We have carried out model simulations that support our hypothesis, and an ongoing collaboration with the Foty laboratory has provided in vitro experimental support.