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Pancreatic β- and α-cell adaptation in response to metabolic changes

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Stellingen (Propositions)

behorende bij het proefschrift getiteld

Pancreatic β- and α-cell adaptation in response to metabolic changes

1. Failure of both β- and α-cell adaptation can contribute to the development of diabetes (*this thesis*).
2. The splenic region of the pancreas is particularly responsive to changes in insulin resistance in rodents (*this thesis*).
3. Comparison of regional differences in β-cell adaptation may lead to the identification of novel factors involved in β-cell mass growth and function (*this thesis*).
4. The islet microenvironment harbors factors that are involved in β-cell adaptation (*this thesis*).
5. Effects of short-term diets cannot be automatically translated to metabolic effects after long-term diet use (*this thesis*).
6. The basal turnover of islet cells is a normal phenomenon in adult primates and presumably necessary for maintaining an optimum population of pancreatic islet cells under normal conditions of "wear and tear" (Like et al. Am J Path 1974).
7. Progressive loss of β-cell function is central to the development and progression of T2D (Halban et al. Diabetes Care 2014).
8. Most of the current therapies for diabetes focus on managing the symptoms of the disease rather than replacing or preserving β-cell mass (Vetere et al. Nat Rev 2014).
9. While the normalization of blood glucose in diabetic patients is clearly beneficial for the patients and for β-cell survival and function, the antimitogenic effects of this correction may have a long-term impact on β-cell mass (Porat et al. Cell Metab 2011).
10. Facts are stubborn things, but statistics are more pliable (Mark Twain).
11. The four keys to success in science are focus, focus, focus and focus (Nobel Laureate Robert Lefkowitz, Duke magazine Nov-Dec 2012).
12. Done is better than perfect (Sheryl Sandberg, Lean In: Women, Work, and the Will to Lead, 2013).

Rianne Ellenbroek
Leiden, 25 maart 2015