Prolonged Activation of the Htr2b Serotonin Receptor Impairs Glucose Stimulated Insulin Secretion and Mitochondrial Function in MIN6 Cells

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© 2017 Cataldo et al. This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited. Aims Pancreatic ?-cells synthesize and release serotonin (5 hydroxytryptamine, 5HT); however, the role of 5HT receptors on glucose stimulated insulin secretion (GSIS) and the mechanisms mediating this function is not fully understood. The aims of this study were to determine the expression profile of 5HT receptors in murine MIN6 ?-cells and to examine the effects of pharmacological activation of 5HT receptor Htr2b on GSIS and mitochondrial function. Materials and Methods mRNA levels of 5HT receptors in MIN6 cells were quantified by RT qPCR. GSIS was assessed in MIN6 cells in response to global serotonergic activation with 5HT and pharmacological Htr2b activation or inhibition with BW723C86 or SB204741, respectively. In response to H