Analysis of KLF11 Sequence in Type One Diabetic and Wild Type Mice

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Type One Diabetes (TID) is a very prevalent disease affecting 1.25 million and 40,000 more patients are diagnosed every year. This happens when auto antibodies “confuse” the pancreas as a foreign body and attack it. This causes insulin production to fall over time. Insulin is a protein that lets glucose be used by cells for the general processes they do. This causes glucose to build up in the blood which has many bad health repercussions. In order to manage this, diabetics have to inject synthetic insulin. Even with this treatment there are still many dangers if slight miscalculations are made in dosage amount. Including problems with feet, eyes, and kidneys. Krüppel-Like Factor 11 (KLF11) is a transcription factor that is involved with the promotion of insulin. The KLF family is highly involved in many pancreatic processes. There is some possible connections with KLF11 and diabetes. Sequence and RNA promotion rates were compared between Non-Obese Diabetic (NOD) mice and wild type mice. This was done using DNeasy DNA extraction protocol with gene amplification to sequence and see if differences could be observed. Then RNeasy RNA extraction was done with quantitative PCR to see if more or less KLF11 was produced in the different species.

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