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Resequencing of KLF14 gene in population based family study with Type 2 Diabetes

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KLF14 belongs to Kruppel-like transcription factor family. It has been reported as main transcription factor of adipose tissue, which regulates ten genes. *KLF14* is an intronless gene with high CG content (around 74%), which is hot spot for mutations. Since 2010, many GWAs report SNPs near *KLF14* gene as a susceptible loci related to T2D, it was reasonable to resequence this locus to find out important associated SNP with T2D. To accomplish this purpose, we selected 50 nuclear families with individuals older than 35 years, included probands, who were registered in Yazd Diabetes Research Center with at least one of their parents and their available siblings. DNA was isolated from peripheral blood. *KLF14* gene was amplified by CG-Rich PCR in two overlapping parts. The gene parts were sequenced by Sanger method. Among 220 SNPs of the gene, Rs76603546 with OR=2.15, (CI: 1.08-4.30) and P value=0.02 was associated with type 2 diabetes. To our knowledge, it is the first time that the association of Rs76603546 SNP with T2D is reported. As Rs76603546 is located in CG Island at *KLF14* gene, it is probable that it have significant influence on methylation of *KLF14*, which may effect on the expression of *KLF14*. The association of Rs76603546 should be confirmed in future studies with higher power, which is in progress.

Biography

Ensieh Shahvazian has completed her MSc from Shahid Sadoughi University of Medical Sciences, Iran. She has accomplished several organized and valuable projects on Diabetes and Diabetic Retinopathy. She is also a Genetic R&D Researcher at ROJETechnologies.

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