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Research on cardiac gene expression during Korean red ginseng treatment in diabetes

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The objective of our present research was to identify the novel therapeutic target for diabetic cardiomyopathy. To achieve this level of identifications we try to inspect the genes related to metabolism and its crucial title role in the cardiac functions during diabetes. In this study, via microarray analysis we observed the significant rises of metabolic gene expression such as acyl-CoA thioesterase 1 level in the myocardia of db/db mice when compared to normal group of animals. Consequently, gain-of-function and loss-of-function approaches in db/db mice were studied via acyl-CoA thioesterase 1 gene expression level in cardiac functions. Present investigations also exemplify the significant anti-diabetic potential of ginseng total saponin (GTS). Though, the multifaceted connection between the anti-diabetic effects of Korean Red Ginseng (KRG) and its sound effects on the level of metabolic gene expression on anti-diabetic animal's heart has not identified. Henceforth, in current research, we attempt to assess the link between the anti-diabetic effects of KRG and the level of metabolic gene expression profiles in the heart of db/db mice. Apoptosis-related genes including Cideb, Bdnf, Myc, Cd74, Inhbb, Lcn2, Cyfip2, Aen, Prune2, Spp1, Gadd45b, and Sphk1 were significantly reduced along with considerable increases of the levels of Gas1, Angptl4, Fn1, Tpx2, Egfr, Snai2, Sfrp2, Gas1, and Lpar1 genes after KRG treatment. Above indicated interesting outputs elucidated that the genes in charge for apoptosis and inflammation processes were down-regulated at significant manner by KRG treatment. From these observations, we can conclude that the KRG treatment potentially defending diabetes correlated cardiac problems at the level of its genome.

Biography

Jong-Hoon Kim has completed his PhD from Konkuk University. He is the Associated Professor in Chonbuk National University, Republic of Korea. He has published more than 70 papers in reputed journals and has been serving as an Associated Editor of Journal of Ginseng Research.

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