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**Analysis of the role of microRNA in age-related heart electrophysiological remodeling**

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Aging is associated with notable changes in cardiac electrophysiology. Among others, changes in gene and protein expression have been reported but the underlying mechanisms are not fully understood, particularly in humans. microRNAs are small RNAs that modulate mRNA expression post-transcriptionally in relevant biological processes, including aging. In this study, RNA-seq data of 132 human left ventricle samples from different age range donors was analyzed to identify key microRNA involved in age-related electrophysiological remodeling. According to both chronological and biological (represented by *CDKN2A* expression) aging, several microRNAs were found to be upregulated or downregulated with age (AGEmiRNA). AGEmiRNA predicted targets involved in electrophysiological heart functions were further filtered to meet an opposite AGEmiRNA expression profile, thus obtaining putative mainly AGEmiRNA-regulated genes. As a conclusion, these studies provide evidence of a microRNA-based gene regulatory network involved in heart electrophysiology during chronological and biological aging.

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