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Does CRISPR/Cas Help Us to Understand Microbial Ecology in Space?: Thermococcus spp. Samples

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In this research, CRISPR/Cas regions of 27 whole-genome sequences of hyperthermophilic archaea, Thermococococcus spp. were examined. Spacer sequences obtained from CRISPR/Cas systems were screened and plasmid or phage invaders were detected. Hydrothermal vents have enormous microbial diversity and chemical composition. So, deepsea vents are very critical localizations to study and observe early earth's environment and evolution. Therefore, databases of spacers derived from the clustered regularly interspaced short palindromic repeat (CRISPR) systems were used to see whether this system can be used to guess ecological interactions between archaea and viruses or plasmids. These hydrothermal vents have been thought to be found in other ocean worlds such as Europa and Enceladus. Therefore, astrobiologists have been quite interested in these moons, and researchers have made thought about whether these systems may be evidence of extremophiles. In conclusion, CRISPR/Cas system has been thought to provide a further step to observe ecological diversity in extraterrestrial systems, especially the ones that are assumed to have hydrothermal vents such as in Europa or Enceladus.

Conclusion: The demethylation of FTO in the cardiomyocytes may thus offer a novel molecular target toward preventing DBDPE-induced cardiotoxicity and thereby providing a new treatment strategy to alleviate cardiac dysfunction induced by DBDPE.

Biography

Ozge Kahraman-Ilıkkan worked in Department of Microbiology, Baskent University, Kahramankazan Vocational School, Food Quality Control and Analysis Program, Ankara, Turkey.

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