

Progress in DNA Sequencing Technology: Recent Breakthroughs and Future Prospects

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Abstract: *In the dynamic field of DNA sequencing, continuous advancements in science and technology drive progress. Notably, recent developments have focused on the refinement of techniques and the introduction of innovative tools to enhance sequencing capabilities. For instance, Michael's work in 2005 showcased the integration of microfluidic separation platforms into Sanger sequencing methods, marking a significant milestone in the field. Furthermore, Jay A.'s research in 2008 contributed to the optimization of dideoxy sequencing protocols, further improving the efficiency and accuracy of DNA sequencing processes. Additionally, the pioneering work of Sanger and subsequent reports by Clyde A. Hutchinson in 2007 introduced novel techniques such as plus and minus sequencing, expanding the repertoire of available sequencing methods. Moreover, advancements have been made in the sequencing of methylated DNA and the investigation of DNA and RNA protein interactions, as evidenced by George M. Church's seminal work in 1988. This review endeavors to synthesize and present a comprehensive overview of these cutting-edge techniques and their implications for DNA sequencing methodologies.*

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