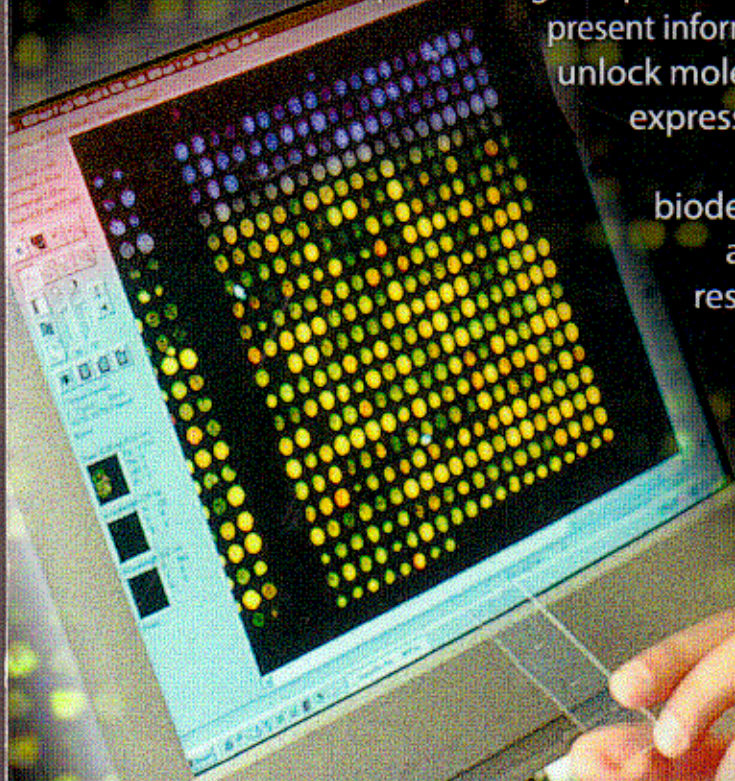


The sequencing of the human genome was a pivotal event in science that opened the door to exploring the structure and function of genes and their regulation. The activation or suppression of transcribed genes is critical to the orchestration of everyday biological processes at the cellular, tissue, and physiological levels. The rapid advance of science and technology has yielded the development of the microarray technique, which has propelled a much deeper understanding of the genome. By combining these technological advances in microarrays with statistical and bioinformatics software, investigators are now able to perform scientific investigations geared towards answering unique biological problems that encompass many fields of research from genetics and evolution to molecular medicine, health, and disease. This book provides an overview of the use and application of microarrays throughout the life sciences to address diverse complex biological questions. In this collection, authors

present information on using microarrays to unlock molecular mechanisms and gene expression patterns associated with research areas ranging from biodefense, pathological changes, and monitoring antimicrobial resistance genes to diagnostics, marine biodiversity, and dermal toxicology.



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