

The Role of Epigenetics in Human Disease

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Abstract. Epigenetics plays a crucial role in the development and progression of human diseases. This article explores the mechanisms by which epigenetic modifications influence gene expression and contribute to disease states. Our review highlights recent advances in epigenetic research, emphasizing its potential for therapeutic interventions.

Keywords: Epigenetics, Gene expression, Human disease, Therapeutic interventions, Medical research

Introduction

Epigenetic mechanisms are pivotal in regulating gene expression and have significant implications for human health and disease. By altering the epigenome, these modifications can influence the development and progression of various diseases, including cancer and neurodegenerative disorders. This article provides an overview of the current understanding of epigenetic regulation and its role in disease pathogenesis. We discuss recent advancements in epigenetic therapies and their potential to revolutionize medical treatments. Our findings underscore the importance of integrating epigenetic research into clinical practice to improve patient outcomes.

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