

DNA replication, the process of copying one double stranded DNA molecule to form two identical copies, is highly conserved at the mechanistic level across evolution. Interesting in its own right as a fascinating feat of biochemical regulation and coordination, DNA replication is at the heart of modern advances in molecular biology. An understanding of the process at both the biological and chemical level is essential to developing new techniques in molecular biology.

The fast pace of replication research, particularly in providing new structural insights, has outdated the majority of available texts. This learned, yet accessible, book contains the latest research written by those conducting it. It examines conserved themes providing a biological background for biochemical, chemical and pharmaceutical studies of this huge and exciting field.

**Molecular Themes in DNA Replication** highlights new insights into the replication process in eukaryotes, from the assembly of pre-replication complexes, through polymerisation mechanisms, to considering replication in the context of chromatin and chromosomes. It also covers mitochondrial DNA replication, and includes archaeal paradigms, which are proving increasingly relevant to the study of replication in higher eukaryotes. Exciting potential drug targets in DNA replication are discussed, particularly in the context of novel treatments for malaria and cancer.

Rather than simply "itemising" the replication steps and the proteins involved, replication is tackled from a novel perspective. The book provides logical groupings of processes based upon biochemical similarities. The emphasis on mechanisms and the relationship between structure and function targets the chapters towards biochemists and biological chemists as well as molecular and cell biologists.

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