MEDICAL
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UNIT

Hepatitis Delta Virus

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PREFACE

Since its discovery in 1979, HDV has occupied a unique position in virus taxonomy. It does not belong to any of the established viral family but constitutes its own genus, deltavirus, whereas it does have significant similarity to viroids, subviral agents of higher plants. HDV RNA genome is smaller than any known animal virus genome, so small that it encodes only a single protein. Therefore, its propagation is largely dependent on factors supplied by host and another virus, hepatitis B virus (HBV). For example, HDV makes use of HBV's surface antigens for envelope proteins. HDV replicates through RNA-dependent RNA synthesis by cellular DNA-dependent RNA polymerase(s). RNA editing by cellular enzyme(s) and RNA cleavage by viral ribozymes are also involved in the viral life cycle. From a medical point of view, patients infected with both HBV and HDV tend to develop more severe clinical symptoms than those infected with HBV alone. All these features make HDV unique and attractive, and its research over the last two decades has resulted in a number of findings that have wide implications beyond the immediate subject.

This book concisely describes various aspects of HDV, from basics to cutting-edge research, from medicine to molecular virology and biology. Chapters were written by internationally renowned scientists. We want to take this opportunity to thank all the authors who generously contributed. We hope their conscientious efforts will have made this book useful to broad readers for many years to come. We would also like to acknowledge the expert assistance of Cynthia Conomos and Sara Lord at Landes Bioscience.

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