
Preface

Hepatocellular Carcinoma: Methods and Protocols outlines the research methods applied in the laboratories and clinics of those scientists and clinicians interested in the understanding and clinical management of patients with hepatocellular carcinoma (HCC).

Part I, *The Clinical Problem*, has been contributed by two leading clinical groups who have identified and addressed problem areas related to the management of HCC patients. Various treatment modalities are discussed and emphasis is placed on the limitations they experienced.

Part II, *HCC Carcinogenesis*, reviews the main etiological factors related to hepatitis B and hepatitis C.

Part III, *Molecular and Biological Characteristics*, provides insight into the molecular changes associated with HCC, including tumor-suppressor genes, oncogenes, adhesion molecules, matrix metalloproteinase, and novel genes and markers.

Part IV, *HCC Gene Therapy*, addresses gene therapy approaches to treating hepatocellular carcinoma. It includes the use of various vectors, such as lipids, viruses such as adenoviruses and baculoviruses, and virus detection using electron microscopy assessment. The use of adenovirus with specific promoters, such as AFP, is also included. Preclinical and clinical data on the killing of cancer cells using tumor-suppressor genes, antisense to growth factors, immunogene therapy, or virus-directed enzyme prodrug therapy are addressed.

Part V, *Clinical Protocol for p53 Gene Therapy for Liver Tumors*, offers a future perspective on how to treat the failing liver, which is the principal source of mortality in these patients. It includes gene therapy approaches for use in patients suffering from hypoalbuminemia, abnormal clotting, low platelet count, and viral hepatitis DNA vaccinations.

There is no doubt that advances in molecular characterization, novel gene isolation, and gene therapy will improve the services we can provide to patients suffering from hepatocellular carcinoma and ultimately working toward its prevention.

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Hepatocellular Carcinoma

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