1. Record Nr. UNINA9910298296903321

Titolo	Next Generation Sequencing in Cancer Research, Volume 2 : From Basepairs to Bedsides / / edited by Wei Wu, Hani Choudhry
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2015
ISBN	3-319-15811-2
Edizione	[1st ed. 2015.]
Descrizione fisica	1 online resource (500 p.)
Disciplina	570285 599935 610 611.01816 614.5999
Soggetti	Cancer research Human genetics Bioinformatics Cancer Research Human Genetics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Single-cell next Generation Sequencing and Its Applications in Cancer Biology -- Utility of Next Generation Sequencing in Cancer Drug Development and Clinical Trials -- Next-Generation Sequencing in the Era of Cancer-Targeted Therapies: Towards the Personalised Medicine -- Mutational Similarities Across Cancers: Implications for Research, Diagnostics and Personalized Therapy Design -- Standardized Decision Support in NGS Reports of Somatic Cancer Variants -- Clinical Considerations in the Conduct of Cancer Next Generation Sequencing Testing and Genetic Counselling -- Next Generation Sequencing for Cancer Biomarker Discovery -- Validation and Implementation of Next Generation Sequencing Technologies in a Clinical Molecular Diagnostic Laboratory -- Next Generation Sequencing Technologies and Formalin Fixed Paraffin Embedded Tissue: Application to Clinical Cancer Research -- Applications of NGS to Screen FFPE Tumours for Detecting

Fusion Transcripts -- Clinical Application of Next-Generation Sequencing of Formalin-Fixed Paraffin-Embedded Tumors -- ChIP-BS-Sequencing in Cancer Epigenomics -- Integrative Analysis Identifies Transcription Factor-DNA Methylation Relationships and Introduces New Avenues for Translating Cancer Epigenetics Into the Clinic -- Differential Methylation Analysis with Next-Generation Sequencing -- Performance Comparison and Data Analysis Strategies for MicroRNA Profiling in Cancer Research -- Small RNA Sequencing for Squamous Cell Carcinoma Research -- Exome Capture and Capturing Technologies in Cancer Research -- The Landscape of DNA Virus Associations Across Human Malignant Cancers -- Using Next Generation Sequencing to Reveal Patterns of Chromosomal Alterations in Oral Verrucous Carcinoma -- Vironomics: The Study of Viral Genomics in Human Cancer and Disease -- Molecular Typing of Lung Adenocarcinoma on Cytological Samples in the Next Generation Sequencing Era -- Whole Genome/Exome Sequencing in Acute Leukemia: From Research to Clinics -- Next Generation Sequencing Applications in Head and Neck Oncology -- CIC Mutation in Brain Tumor -- Isocitrate Dehydrogenase (IDH) Mutation in Gliomas -- Utilization of Multigene Panels in Hereditary Cancer Predisposition Testing.

Sommario/riassunto

Next Generation Sequencing in Cancer Research, Volume 2: From Basepairs to Bedsides, the second in the series “Next Generation Sequencing Technology in Cancer Research—From Basepairs to Bedsides,” is designed to fill the gap between cancer genome research and clinical management of the individual cancer patient. The volume presents the principles of next generation sequencing (NGS) technologies and massively parallel DNA sequencing and their application of the whole genome sequences (WGS), whole exome-seq (WES), RNA-seq, miRNA-seq, and ChIP-seq in cancer research programs and to apply the newly discovered driver genetic alterations for prevention, early diagnosis and genome-oriented precision cancer treatment. Next Generation Sequencing in Cancer Research, Volume 2: From Basepairs to Bedsides brings together the implementation of a wide range of NGS technologies, including single-cell sequencing, in the clinical setting: discovery and validation of cancer biomarkers; standardization of NGS data production; NGS data reporting systems for clinicians; novel anti-cancer therapies development from NGS data; conducting of clinical trials of newly investigated cancer drugs. It provides compelling evidence to signal a new future for health care and a new standard for cancer care.