Record Nr. UNINA9910595078103321

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Titolo Precision Medicine in Solid Tumors

Pubbl/distr/stampa Basel, : MDPI Books, 2022

Descrizione fisica 1 electronic resource (304 p.)

Soggetti Medicine

Oncology

Lingua di pubblicazione Inglese

Formato Materiale a stampa

Livello bibliografico Monografia

Sommario/riassunto

In the era of precision medicine, the use of molecularly targeted therapies in selected patients has led to a paradigm change in cancer treatment. Multiple studies have demonstrated the benefits of therapies that are chosen based on the molecular profile of the tumor and also from the liquid biopsy. With genomics' increasing ability, a routine transcriptomics analysis of advanced/metastatic cancers is now feasible in most cancer hospitals, including community cancer centers. This is an unprecedented shift in the management of cancers irrespective of their organ types, which not only improved the outcome but also opened several new avenues in research and practice, such as immunecheck-point inhibitors, tumor-TME co-evolution in the development of resistance, longitudinal liquid biopsies, biomarkers screening and the management of electronic medical records. This book brings together these crucial areas of investigation. The research presented here attempts to address the current issues to provoke thoughts for the future. The future of precision medicine will have to embrace a shift from in vitro, in vivo/PDX models for the mechanistic study to a more functional test based on the scientific interrogation of genomic data, in the form of functional precision medicine. We will also have to combat the element of noise in the multitudes of data and impart the regulatory structure to make judicious use of the data. The expectations for functional precision medicine are high. We aspire to

witness a tremendous improvement in patient outcomes, from better to best, down the road that will match the clinical guidelines.