Molecular profiling

The comprehensive molecular profiling of cancer has resulted in new insights into the biology and classification of numerous tumor types.

The classification of tissue or other specimens for diagnostic, prognostic, and predictive purposes based on multiple gene expression, is a technology that holds major promise for optimizing the management of patients with cancer.

Molecular profiling refers to the study of specific patterns, or signature, of the following:

Protein (Proteomics; Oncopeptidomics)

mRNA (Gene Expression Profiling; Microarray (cDNA) Technology; RNA Profiling; OncoArray; Oncotype DX; MammaPrint)

DNA (Polymorphism; Metabolic Polymorphisms; Metabolic Polymorphisms and Cancer Susceptibility)

Epigenetic status (Epigenome).

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see Single-cell transcriptome profiling.

Molecular profiling of GBM has become crucial for improving diagnosis, predicting prognosis, and guiding personalized therapies. Next-generation sequencing (NGS) has emerged as a powerful tool to comprehensively analyze the genetic landscape of GBM, providing insights into its heterogeneity and potential therapeutic targets.