

Solid Tumor Molecular Profiling

The Solid Tumor Molecular Profiling test takes advantage of next-generation sequencing to offer a comprehensive molecular profile of cancer for personalized care with a single test, reducing the time and resources required for analysis.

Introduction

Targeted therapies are emerging based on our increased knowledge of cancer genomics and pathways. Current tumor molecular profiling involves multiple tests, each targeting a single gene and focusing on specific point mutations. Although effective in some cases, this iterative testing can result in increased costs and a longer time to answer. In addition, these tests reveal only a portion of what is happening within the tumor and can lead to a “one size fits all” view of possible therapies. The same genetic answers gained through these tests can be obtained faster and more cost-effectively using next-generation sequencing (NGS) technology. These results can be provided along with additional information on emerging biomarkers in recent clinical studies to inform more personalized therapy decisions.

Comprehensive analysis

Building on their proven NGS technology, Illumina is developing a suite of Solid Tumor Molecular Profiling tests that can identify genomic changes known to be important to lung, colon, melanoma, gastric, and ovarian cancers. NGS multiplexing capabilities enable one assay to provide a complete tumor molecular profile, identifying point mutations, small insertions and deletions, and targeted genomic rearrangements.

The test will use NGS to target genomic alterations in over 26 genes. From this single test, clinicians will receive actionable information to help them ascertain optimal treatment plans for individuals. This includes understanding prognostic biomarkers, selecting standard treatments, and identifying biomarkers relevant in clinical trials.

Starting with FFPE tissue samples, extracted DNA will be prepared using an amplicon-based protocol and then sequenced on the MiSeq® system. Illumina is developing an analysis pipeline that results in an actionable report. This clinically interpreted report leverages a database of NCCN and CAP guidelines, as well as the most recent information available from publications and clinical trials to provide clinicians with the information they need to educate a personalized treatment plan.

Summary

The Illumina Solid Tumor Molecular Profiling test in development uses proven NGS technology to quickly and efficiently provide a comprehensive, personal view of cancer. This information can be used to inform treatment options, ensuring that patients receive optimal care.

To learn more, visit www.illumina.com/MiTumor