CancerMaster Panel

Somatic Cancer

DESCRIPTION

The CancerMaster Panel is designed to detect all variant types and immuno-oncology markers (MSI and TMB), which are crucial biomarkers for cancer immunotherapy. For CNV analysis, different cut-offs are applied according to the ratio of cancer cells. The panel is also designed to detect Epstein-Barr virus (EBV) and Human Papillomaviruses (HPV), allowing for the comprehensive analysis of cancer-associated genes.

KEY FEATURES

|	
1. Comprehensive analysis of cancer-associated genes	A broad range of targeting elements including somatic variants, IO-signatures (TMB, MSI), EBV and HPV, for clinical diagnoses of different cancer types and applications to precision medicine
2. Extensive validation studies	Robust panel performance supported by extensive validation tests with reference and clinical specimens

SPECIFICATION

Gene count*	524 genes
Covered region	Whole CDS, custom regions of oncogenes, immune response genes, and EBV & HPV viruses
Target size	2.5 Mb
Mutation type	SNV, Indel, CNV, Rearrangment, TMB, MSI, EBV, HPV
Sample type	FFPE, Fresh frozen tissue (> 50 ng of fragmented DNA)
Platform	All sequencers from Illumina, Thermo Fisher, MGI, PacBio, and Oxford Nanopore
Bioinformatics pipeline	Primary, Secondary and Tertiary analysis result (FASTQ to VCF, VCF to Clinical report)
Publication	Molecular Characterization of Biliary Tract Cancer Predicts Chemotherapy and PD-1/PD-L1 Blockade Responses, Hepatology, 2021

* Gene Add-On Service: Genes can be added by customer's request

PANEL PERFORMANCE

The probes are designed to include the intron regions as well as clinically significant biomarkers. By conducting extensive validation studies with clinical samples, the panel was examined to show its performance with high sensitivity and specificity in detecting the variants in cancer-associated genes.

Variants of CancerMaster (764 Samples)
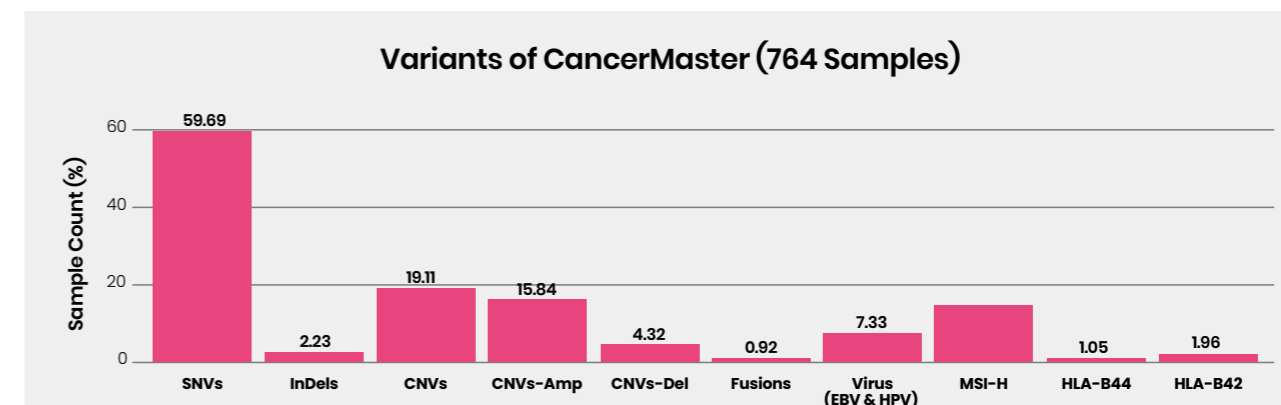
ANALYSIS OF EBV & HPV

EBV (Epstein-Barr Virus)

- Related disease – Lymphoma
- Genes – EBV type 1 (EBNA-2)

Validation for detection of EBV type 1 (EBNA-2) in control specimens

HPV (Human Papillomavirus)

- Related disease – Cervical cancer
- Genes – HPV L1 gene (Analysis of a total of 24 types is possible)
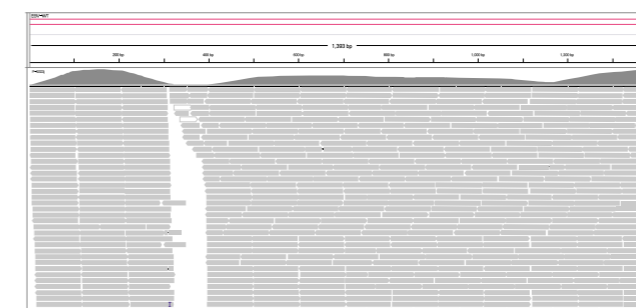
Analysis of the following 11 types of HPV types was completed using clinical specimens

Human infection HPV list
Human papillomavirus type 178
Human papillomavirus type 136
Human papillomavirus type 140
Human papillomavirus type 154
Human papillomavirus type 156
Human papivarivus type 179
Human papillomavirus type 201
Human papillomavirus type 49
Human papillomavirus type 9
Human papillomavirus type 92
Human papillomavirus type 96

PACKAGE COMPOSITION

Package name	Compositions	
Target Enrichment	Target capture Probe	–
Standard	Target Enrichment reagents	–
All-In-One		Beads / Polymerase

Package option	Options	
Pooling method	Single Reaction	Pre-capture Pooling
Library Preparation kits	Standard Kit	EP-kit
Hybridization Enhancer	Included	Not included