

PRODUCT OVERVIEW

Pan-Cancer Panel V2

iGeneTech Bioscience Co., Ltd.

ADVANTAGES

1.High sensitivity and accuracy of mutation detection;

2.Full detection of tumor-related genes, covering multi gene sand microsatellite loci, the TMB and MSI value can be calculated;

3.Efficient and uniform capture depending on self-developed TargetSeq One® hybrid & capture system;

4.Customized services for different research purposes, increase and encrypt probes of target area upon demand

PERFORMANCE

Excellent Capture performance

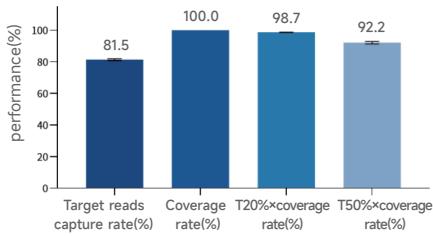


Figure 1. Performance of gDNA reference standard

Libraries were constructed from 50 ng of gDNA positive reference standard (Genewell, cat. GWOVTM800), captured with the Pan-Cancer Panel V2, and sequenced on an Illumina NovaSeq 6000 platform with 2 × 150 bp paired-end reads.

-High sensitivity and accuracy of mutation detection

Table 1. Mutant detection of gDNA reference standard

Note: Detection results of the positive reference standard. A library was constructed from 50 ng of gDNA standard (Genewell, cat. GWOPSM003) and sequenced on Illumina NovaSeq 6000 (2 × 150 bp paired-end). After deduplication, at ~1,000× depth (7 Gb raw bases), all expected positive variants were successfully called.

Gene	Variant	Expected Allelic Frequency	Reported Allelic Frequency
EGFR	p.L858R	1.0%	0.9%
KRAS	P.A146T	1.0%	1.4%
KRAS	p.Q61K	1.0%	0.9%
EGFR	P.T790M	2.0%	1.9%
EGFR	p.E746_A750del	2.0%	1.5%
FLT3	p.B183del	2.0%	1.8%
KIT	p.D816V	2.0%	2.3%
KRAS	p.G12D	2.0%	1.6%
EGFR	p.A767_V769dup	3.0%	1.9%
EGFR	p.G719S	4.0%	4.5%
KRAS	p.G13D	4.0%	3.3%
EML4-ALK	Fusion	5.0%	3.6%
CD74-ROS1	Fusion	6.0%	2.1%
BRAF	p.V600E	7.0%	4.7%
PIK3CA	p.H1047R	7.0%	7.1%

-Accurate detection of low-frequency mutations

Table 2. Detection result of ctDNA reference standard

Note: cfDNA performance evaluation. Libraries were constructed from 10 ng 0.5% ctDNA reference standard using UMI adaptor technology. After downsampling to 8,000× coverage, UMI-based analysis with iGeneTech pipeline detected all expected variants, demonstrating robust performance at low input.

Gene	Variant	Expected Allelic Frequency	Reported Allelic Frequency	
			Repeat 1	Repeat 2
EGFR	p.L858R	0.50%	0.56%	0.66%
EGFR	p.ΔE746_A750	0.50%	0.15%	0.58%
EGFR	p.T790M	0.50%	0.31%	0.60%
EGFR	p.V769_D770insASV	0.50%	0.26%	0.40%
KRAS	p.G12D	0.50%	0.56%	0.11%
KRAS	p.Q61K	0.50%	0.71%	0.55%
NRAS	p.A59T	0.50%	1.11%	0.56%
PIK3CA	E545K	0.50%	0.43%	0.40%

GENE LIST

-641 gene - full coverage of CDS region

*Partial display only

ABC1	ABC3	ABL1	ABL2	ACVR1	ACVR1B	AGO2	AKT1	AKT2	AKT3	ALK	ALOX12B	AMER1
ANKR011	APC	APEX1	AR	ARAF	ARRP1	ARID1A	ARID1B	ARID2	ARID5B	ASNS	ASXL1	ASXL2
ATC	ATM	ATR	ATRX	AURKA	AURKB	Axin1	Axin2	AXL	B2M	BABAM1	BAP1	BARD1
BBC3	BCL10	BCL2	BCL2L1	BCL2L11	BCL2L2	BCL6	BCOR	BCORL1	BCR	BIRC3	BIRC7	BLM
BUPP1A	BRAF	BRC1	BRC2	BRD4	BRIP1	BTG1	BTG2	BTK	C11orf80	C8orf84	CALR	CARD11
CARM1	CASP7	CASP8	CBFB	CBL	CBR3	CCND1	CCND2	CCND3	CCNE1	CD22	CD274	CD276
C03EAP	CD44	CD70	CD79A	CD79B	CDA	CDCA2	CDCT3	CDH1	CDK12	CDK4	CDK8	CDK9
CDKN1A	CDKN1B	CDKN2A	CDKN2B	CDKN2C	CEBPA	CENPA	CHD2	CHD4	CHEK1	CIC	CREBBP	CREBBP
CRKL	CRL2	CSDE1	CSF1R	CSF3R	CTCF	CTLA4	CTNNA1	CTTNB1	CTTN	CUL3	CUL4A	CXCR4
CYD	CYP17A1	CYP19A1	CYP1B1	CYP2C8	CYP2D6	CYP4B1	CYSLTR2	DAXX	DCUN1D1	DDR1	DDR2	DDX43
DICER1	DIS3	DNA1B	DNM1	DNMT3A	DNMT3B	DOT1L	DPPD	DROSH1	DUSP4	DYNC2H1	E2F3	EED
EGR1	EGR1A	EGR1B	EGR4A2	EGR4E	ELF3	EP300	EPAS1	EPICAM	EPHA2	EPHA3	EPHA5	EPHA7
EPHBL1	EPHBL2	ERBB2	ERBB3	ERCC1	ERCC2	ERCC4	ERCC5	ERF	ERG	ERRFI1	ERRFI2	ERRFI2
ESRI	ESR2	ETV1	ETV6	EW51	EXT1	EZH1	EZH2	FADD	FAM175A	FAM46C	FAM58A	FANCA
FANCC	FANCO2	FANCF	FANCG	FANCL	FANCM	FAS	FAT1	FAT3	FBXW7	FGCR2A	FGCR3A	FGCR3A
FGF10	FGF12	FGF14	FGF19	FGF23	FGF3	FGF4	FGF6	FGFR1	FGFR2	FGFR3	FGFR4	FGFR4
FLCN	FLI1	FLT3	FLT4	FOXA1	FOXL2	FOXO1	FOXP1	FRS2	FSHR	FUBP1	FYN	GAB2
GABRA6	GALNT12	GATA1	GATA2	GATA3	GATA4	GHH	GID4	GL11	GNA11	GNA13	GNAQ	GNAQ
GNAS	GPR124	GP52	GREMI	GRIN2A	GRIN3B	GSTA1	GSTM1	GSTM1	H3F3A	H3F3C	H3F3C	H3F3C
HAS3	HDA4C	HGF	HIST1H1C	HIST1H2B								
HIST1H3H	HIST1H3I	HIST1H3J	HIST2H3C	HIST2H3D	HIST3H3A	HLA-A	HLA-B	HLA-B	HMIR	HMIR1	HMIR2	HMIR2
HSP90AA1	HSPB1	ICOSLG	ID3	IDH1	IDH2	IFNGR1	IGF1	IGF1R	IGF2	IGKBE	IKZF1	IL10
IL1A	IL4	IL7R	IL8	INHA	INHBA	INPP4A	INPP4B	INSP11	IRF2	IRF4	IRF5	IRF5
IRS2	JAK1	JAK2	JAK3	JUN	KAT6A	KDM8A	KDM5C	KDM6A	KDR	KEAP1	KEL	KEL
KIT	KLF4	KLHL6	KMT2A	KMT2B	KMT2C	KMT2D						

-List of 38 DNA rearrangement

NOTCH2	NTRK1	ALK	MSH2	RAF1	ET15	FGFR1	FGFR2	SLC34A2	PDGFRA	KIT	CDT4	ROS1
MYB	EZR	EGFR	BRAF	FGFR1	MYC	NTRK2	RET	BCL2	KMT2A	ETV6	BRC2	BRC2
NTRK1	RARA	BRC1	ETV4	SDC4	TMPS22	BCR	EWSR1	BCL2	RSP02	MET	ETV2	ETV2
PAPY	TERT											

-List of 15 MSI

BAT40	Mono-27	BAT26	D2S123	NR24	BAT25	D5S346	D8S544	Penta C	NR27	NR21	D17S250
D18S69	D18S64	Penta D									

-214 Chemotherapy sites *Partial display only

rs8175347	rs13181	rs2207396	rs3211371	rs10426377	rs602950	rs3740066	rs7194667
rs2070676	rs1051640	rs2231137	rs544093	rs1762122	rs1736848	rs1758389	rs879207
rs10981694	rs11615	rs717620	rs5588062	rs149015	rs1517114	rs12210538	rs34743033
rs11045585	rs1736557	rs2049380	rs138887	rs85004	rs4646847	rs4148950	rs1448945
rs2031059	rs2292954	rs2227291	rs1871450	rs1799381	rs22860	rs2286001	
rs1042522	rs1799735	rs25487	rs3212986	rs3957357	rs6369023	rs2740574	rs9561778
rs1695	rs2025292	rs2075292	rs316019	rs1056892	rs1313052	rs3892979	rs3818290
rs9514091	rs1801158	rs1801265	rs1801159	rs2297395	rs1801133	rs1045642	rs9024
rs67376798	rs9349492	rs234693	rs1052536	rs7319981	rs4694362	rs7779029	rs3946355
rs7176005	rs9336750	rs7325568	rs7853758	rs2291767	rs1801160	rs1061472	rs1799793

PRODUCT INFORMATION

Product Name	Spec.	Cat.
Pan-Cancer Panel V2	24/96 rxn	PT1011715/PT1011712
IGT® Enzyme Plus Library Prep Kit V3	96 rxn	C11112
IGT® Fast Library Prep Kit v2.0	96 rxn	C10022
IGT® Adapter & UDI Primer 1-96*	96 rxn	C10042
TargetSeq One® Hyb & Wash Kit v3.0*	24/96 rxn	C11534/C11532
TargetSeq® Eco Universal Blocking Oligo*	24/96 rxn	C80504/C80502
TargetSeq® Cap Beads & Nuclease-Free Water*	5 mL each	C10422

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