

PRODUCT OVERVIEW

- Target Size: 2.1 Mb
- Detection range: SNV, InDel, Fusion, CNV, MSI, TMB
- Coverage: Covers 641 genes related to targeted drugs for solid tumors and tumor genetic susceptibility related, also additionally adds 38 hot spot fusion intron regions and 15 classic microsatellite loci
- Sequencing Volume: 3Gb/500×, 7Gb/1000×
- Applications: Targeted therapy, immunotherapy guidance, MRD detection

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

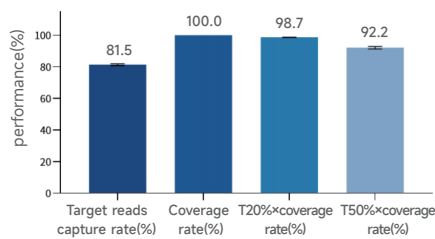


Figure 1. Performance of gDNA reference standard

Libraries were constructed from 50 ng of gDNA positive reference standard (Genewell, cat. GWOGTM800), 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. GWOGTM800) 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.I856del	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: ctDNA 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
EGFR	p.L858R	0.50%	0.56%
EGFR	p.ΔE746_A750	0.50%	0.15%
EGFR	p.T790M	0.50%	0.31%
EGFR	p.V769_D770insASV	0.50%	0.26%
KRAS	p.G12D	0.50%	0.36%
KRAS	p.Q61K	0.50%	0.71%
NRAS	p.A59T	0.50%	1.11%
PIK3CA	E545K	0.50%	0.43%

GENE LIST

-641 gene - full coverage of CDS region *Partial display only

ABCB1	ABCC3	ABLI	ABL2	ACVR1	ACVR1B	AGO2	AKT1	AKT2	AKT3	ALK	ALOX12B	AMER1
ANKRD11	ATC	APEX1	AR	ARAF	ARFRP1	ARID1A	ARID1B	ARID2	ARID5B	ASNS	ASXL1	ASXL2
AT1C	ATM	ATR	ATRX	AURKA	AURKB	AXIN1	AXIN2	AXL	B2M	BABAM1	BAP1	BARD1
BBC3	BCL10	BCL2	BCL2L1	BCL2L1L	BCL2L2	BCL6	BCOR	BCORL1	BCR	BIRC3	BIRC7	BLM
BMPT1A	BRAF	BRCA1	BRCA2	BRD4	BRIP1	BTG2	BTX	C11orf30	C8orf34	CALR	CARD11	
CARM1	CASP7	CASP8	C9orf72	CBL	CBR3	CCND1	CCND2	CCND3	CCNE1	CD22	CD274	CD276
CD3EAP	CD44	CD70	CD79A	CD79B	CDA	CDC42	CDC73	CDH1	CDK12	CDK4	CDK6	CDK8
CDKN1A	CDKN1B	CDKN2A	CDKN2B	CDKN2C	CEBPA	CENPA	CHD2	CHD4	CHEK1	CHEK2	CIC	CREBBP
CRKL	CRLF2	CSDE1	CSF1R	CSF3R	CTCF	CTLA4	CTNNA1	CTNNA2	CTTN	CUL3	CUL4A	CXCR4
CYL1D	CYP17A1	CYP19A1	CYP11B1	CYP2C8	CYP2D6	CYP4B1	CYSYLR2	DAB1	DCUN1D1	DDR1	DDR2	DDX43
DICER1	DISE1	DNAH11	DNMT1	DNMT3A	DNMT3B	DOT1L	DPYD	DROSHA	DUSP4	DIYNC2H1	E2F3	EED
EGFR	EGFR	EIF4A2	EIF4E	ELF3	EP300	EPAS1	EPICAM	EPHA2	EPHA3	EPHA5	EPHA7	
EPH1	EPH2	ERBB2	ERBB3	ERBB4	ERCC1	ERCC2	ERCC3	ERCC4	ERCC5	ERF	ERR1	ERR2
ESR1	ESR2	ETV1	ETV6	EWSR1	EXT1	EZH1	EZH2	FADD	FAM173A	FAM46C	FAM58A	FANCA
FANCC	FANCD1	FANCF	FANCG	FANCI	FANCL	FANCM	FAS	FAT1	FAT3	FBXW7	FCGR2A	FCGR3A
FGF10	FGF12	FGF4	FGF19	FGF23	FGF3	FGF4	FGF6	FGFR1	FGFR2	FGFR3	FGFR4	FH
FLCN	FLT1	FLT3	FLT4	FOXO1	FOXO3	FOXO4	FOXO6	FRS2	FSHR	FUBP1	FYN	GAB2
GABRA6	GALNT12	GATA1	GATA2	GATA3	GATA4	GATA6	GGH	GID4	GLI1	GNAI1	GNAI3	GNAQ
GNAS	GPR124	GPS2	GREM1	GRIN2A	GRM3	GSK3B	GSTA1	GSTM1	GSTP1	H3F3A	H3F3B	H3F3C
HAS3	HDAC1	HDAC6	HGF	HIST1H1C	HIST1H2B	HIST1H3A	HIST1H3B	HIST1H3C	HIST1H3D	HIST1H3E	HIST1H3F	HIST1H3G
HIST1H3H	HIST1H3I	HIST1H3J	HIST2H3C	HIST2H3D	HIST3H3	H3A-A	H3A-B	HMMR	HNF1A	HMOX1	HNR4A	HNR4B
HSP90A1	HSP90B1	ICOSLG	ID3	IDH1	IDH2	IFNGR1	IGF1	IGF1R	IGF2	IKBKE	IKZF1	IL10
IL1A	IL1B	IL2	IL4	IL6	IL13	IL13RA1	IL13RA2	IL13RA3	IL13RA4	IL13RA5	IL13RA6	IL13RA7
IRS2	JAK1	JAK2	JAK3	JUN	KAT5A	KDM3B	KDM3A	KDM3C	KDM5A	KDR	KEAP1	KEL
KIT	KLF4	KLF6	KMT2A	KMT2B	KMT2C	KMT2D	KMT2E	KMT2F	KMT2G	KMT2H	KMT2I	KMT2J

-List of 38 DNA rearrangement

NOTCH2	NTRK1	ALK	MSH2	RAF1	ETV5	FGFR3	SLC34A2	PDGFRA	KIT	CD74	ROS1
MYB	EZR	EGFR	BRAF	FGFR1	MYC	NTRK2	RET	FGFR2	KMT2A	ETV6	BRCA2
NUTM1	RARA	BRCA1	ETV4	SDC4	TMPRSS2	BCR	EWSR1	BCL2	RSP02	MET	ETV1
PAPR4	TERF										

-List of 15 MSI

BAT40	Mono-2T	BAT26	D2S123	NR24	BAT25	D5S346	D8S554	Penta C	NR27	NR21	D17S250
D18S69	D18S64	Penta D									

-214 Chemotherapy sites *Partial display only

rs175347	rs13181	rs2207396	rs3211371	rs10426377	rs602950	rs3740066	rs7194667
rs2070676	rs1051640	rs2231137	rs44093	rs17626122	rs1737648	rs1738389	rs879207
rs10381694	rs11615	rs717620	rs5588062	rs4149015	rs1517114	rs12210538	rs34743033
rs1145585	rs1738557	rs2849380	rs139887	rs855004	rs4646487	rs4148950	rs148945
rs2301159	rs222954	rs2238472	rs2227291	rs1871450	rs179931	rs12960	rs2228001
rs1042522	rs1799735	rs25487	rs3212886	rs3957357	rs62369023	rs2740574	rs9561778
rs11695	rs2032582	rs2075252	rs316019	rs1056692	rs8133052	rs3892097	rs3918290
rs9514091	rs1801159	rs1801265	rs1801159	rs2297595	rs1801139	rs1045462	rs9024
rs6737678	rs2040992	rs2234693	rs1052536	rs7319981	rs4694362	rs7770229	rs934635
rs7176005	rs9936750	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

IGT® can provide kits compatible with Illumina, MGI etc., as well as universal reagents corresponding to each platform

Website: www.igenetech.com

Email: sales@igenetech.com

Tel: 010-89146623

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Add of Jiaxing Subsidiary: Building 2, No. 371 Hongye Road, Dayun Town, Jiashan County, Jiashan City, Zhejiang 314100, CN

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