ONCOMET
Conclusive Oncology Diagnosis

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The Pathology Specialist

Comprehensive Genomic Profiling (CGP)

GENOMIC SIGNATURES

- TMB — Measures — TUMOUR MUTATIONAL BURDEN
- MSI — Measures — MICROSATELLITE INSTABILITY

GENOMIC ALTERATIONS

- BASE SUBSTITUTIONS — Detects
- INSERTION & DELETIONS — Detects
- COPY NUMBERS VARIATIONS — Detects
- GENE REARRANGEMENTS — Detects

NextGen Precision 500 gene Panel

Single assay to assess multiple genes and relevant cancer biomarkers as per NCCN/ESMO Guidelines for therapeutic decision making.

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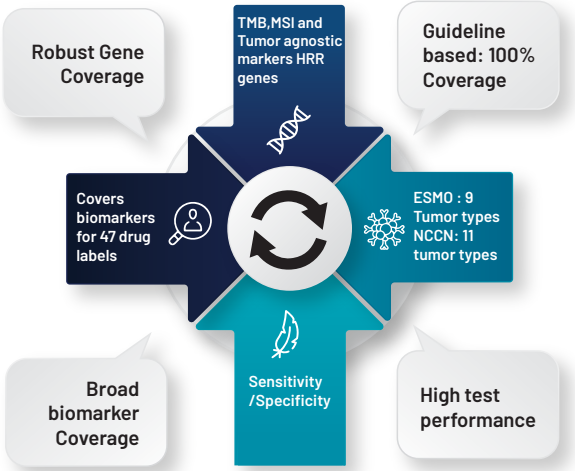
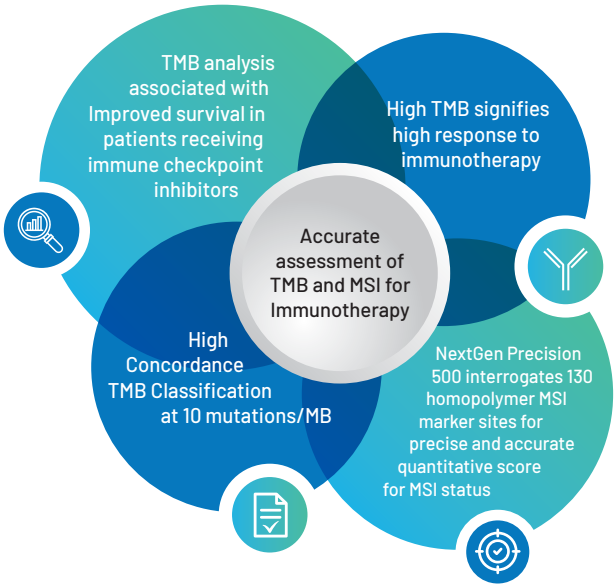
Metropolis presents NextGen Precision 500 gene panel with an advanced next generation sequencing technology for accurate diagnosis to improve outcomes in cancer patients through effective treatment options



SNVs	Indels	CNV gain	CNV loss	Fusions
99.60% I 97.60%	99.50% I 98.10%	100% I 100%	93% I 100%	100% I 100%

NextGen Precision 500 combine comprehensive genomic content with sophisticated informatics algorithm to provide accurate TMB estimation



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NTRK1, NTRK2, NTRK3, (Pan-cancer) | MSI (Pan-cancer) | TMB (Pan-cancer)

Lung	Melanoma	Colorectal	Ovarian	Breast	Gastric	Prostate	CNS
ALK 1	ALK	ALK	ALK	ALK1	BRAF	AR	ATRX
ALK	BRAF	BRAF	BRAF	ALK	EGFR	ATM	BRAF
ATM	BRCAT	BRCAI	BRCAI	BRAF	ERBB2	BRAF	BRIPI
BRAF	BRCA2	BRCA2	BRCA2	BRCAI	KIT	BRCA]	EGFR
BRCAT	EGFR	EGFR	EGFR	BRCA2	KRAS	BRCA2	H3F3A
BRCA	ERBB2	ERBB2	ERBB2	ERBB2	MET	BRIPI	HISTIH3B
EGFR	FGFR1	FGFRI	FOXL2	ERS	NRG	CDK12	IDHI
ERBB2	FGFR4	HRAS	ROST	FGFRI	PIK3CA	CHEKI	IDH2
FGFR1	HRAS	MET	KRAS	FGFR2	PDGFRA	CHEK2	MYCN
FGFR3	KIT	NRG1	MET	NRG	TP53	FANCL	PTCHI
KRAS	KRAS	PIK3CA	PDGFRA	PALB2		FGFR2	RELA
MAP2K1	MAP2KI	PMS2	ROSI	PIK3CA		FGFR3	TERT
MET	NRAS	POLE	TP53	PTEN		NBN	TP53
NRAS	NRG	PTEN	HRD	ROSI		NRG1	
NRG	PTEN	RET		TP53		PALB2	
NUTMI	ROSI	ROSI		HRD		PPP2R2A	
PIK3CA	TP53					PTEN	
PTEN						RAD51B	
RET						RAD51C	
ROS1						RAD51D	
TP53						RAD54L	
						RB1	
						ROS1	
						TP53	

Highlights

- Enables analysis of various single-gene variants, such as **SNVs, InDels, fusions, splice variants, and CNVs** including both copy number gains and losses **across 500+ genes**
- Detection of complex biomarkers associated with immunotherapies such as **TMB, MSI**
- **High sequencing success rates of >95%**, ensures that more samples are successfully tested with Low QNS readings

  High end workflow and streamlined bioinformatics analysis pipeline for optimized results assures coverage of key targets aligned to reported evidences

(Source: Thermo Fisher Scientific©, August 2023)

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HRR & HRD

- Homologous Recombination Deficiency (HRD) is a key emerging marker in precision oncology
- Faulty Homologous Recombination Repair (HRR) pathway and resultant genomic instability is an indicator of HRD
- NextGen Precision 500 uses the Genomic Instability Matrix (GIM)©, a metric that quantifies the degree of genomic instability in 46 critical HRR pathway related genes including BRCA LGRs

46 Key HRR genes

ABRAXAS1	ATM	ATR	BAP1	BARD1	BLM	BRCA1	BRCA2	BRIP1	CDK12
CHEK1	CHEK2	FANCA	FANCC	FANCD2	FANCE	FANCF	FANCG	FANCI	FANCL
FANCM	MRE11	NBN	PALB2	PARP1	PARP2	PARP3	POLD1	POLE	PPP2R2A
PTEN	RAD50	RAD51	RAD51B	RAD51C	RAD51D	RAD52	RAD54L	RNASEH2A	RNASEH2B
RNASEH2C	RPA1	SLX4	TP53	XRCC2	XRCC3				

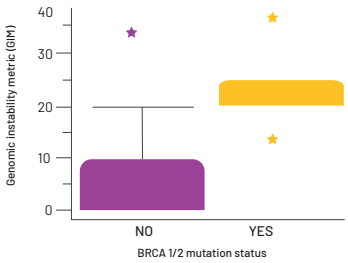
BRCAness beyond BRCA somatic and germline mutation

Comparison of GIM for BRCA-positive and BRCA-negative ovarian cancer samples **(n = 46)**

NO: no pathogenic BRCA1 or BRCA2 mutation present

YES: pathogenic BRCA1 or BRCA2 mutation present.

(Source: Thermo Fisher Scientific©, August 2023)



NextGen Precision 500- Benefits

- Comprehensive coverage (SNVs, Fusions, CNVs, GIM, TMB, MSI, HRR and HRD)
- Higher accuracy with ~96% sensitivity & 97% specificity
- Integrated BI pipeline & reporting
- Low sample input (20ng) DNA & RNA (Fusion Sync technology)
- Rapid TAT 15-21 days

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500 Gene List

A1CF	**BMPR2**	CSF1R	ETV4	H3C2	MALT1	NOTCH3	PDE1A	RAD52	SLC15A2	TRHDE
ABCB1	BRAF	CRCF	ETV5	H3-3A	MAP2K1	NOTCH4	PDE1C	RAD54L	SLC8A1	TRIM48
ABL1	BRCA1	CTLA4	ETV6	H3-3B	MAP2K2	NRAS	PDGFRA	RAF1	SLX4	TRIM51
ABL2	BRCA2	CTNNB1	EZH2	HCN1	MAP2K4	NRG1	PDGFRB	RARA	SMAD2	TRRAP
ABRAXAS1	BRINP3	CTNND2	FAM135B	HDAC2	MAP2K7	NRXN1	PDIA3	RASA1	SMAD4	TSCI
ACSM2B	BRIP1	CUL1	FANCA	HDAC9	MAP3K1	NSD2	PGD	RASA2	SMARCA4	TSC2
ACVR1	BTK	CUL3	FANCC	HIF1A	MAP3K4	NT5C2	PHF6	RB1	SMARCB1	TSHR
ACVR1B	C3	CUL4A	FANCD2	HLA-A	MAP3K8	NTRK1	PIK3C2B	RBM10	SMC1A	U2AF1
ACVR2A	C6	CUL4B	FANCE	HLA-B	MAPK1	NTRK2	PIK3CA	RBP3	SMO	UGT1A1
AKT1	C8A	CYLD	FANCF	HLA-C	MAPK8	NTRK3	PIK3CB	RECQL4	SNCAIP	USP9X
ADAM18	C8B	CYP2C9	FANCG	HNF1A	MARCO	NUP93	PIK3CD	REG1A	SOCS1	VHL
ADAMTS12	CACNA1D	CYP2D6	FANCI	HRAS	MAX	NUTM1	PIK3CG	REG1B	SOS1	WAS
ADAMTS2	CALR	CYSLTR2	FANCL	ID3	MCL1	NYAP2	PIK3R1	REG3A	SOX2	WT1
AKT2	CANX	DAXX	FANCM	IDH2	MED12	OR10G8	PIK3R2	REG3G	SOX9	XPO1
AKT3	CARD11	DCAF4L2	FAS	IGF1R	MDM2	OR2G6	PIM1	RELA	SPEN	XRCC2
ALK	CASP8	DCDC1	FAT1	IKBKB	MDM4	OR2L13	PLCG1	RET	SPOP	XRCC3
AMER1	CASR	DDR1	FBXW7	IL6ST	MECOM	OR2L2	PLXDC2	RGS7	SRC	YAP1
ANO4	CBFB	DDR2	FGF7	IL7R	MEF2B	OR2L8	PMS1	RHEB	SRSF2	YES1
APC	CBL	DDX3X	FGF19	INPP4B	MEN1	OR2M3	PMS2	RHOA	STAG2	ZBTB20
AR	CCND1	DGCR8	FGF23	IRF4	MET	OR2T3	POLD1	RICTOR	STAT1	ZFHX3
ARAF	CCND2	DICER1	FGF3	IRS4	MGA	OR2T33	POLE	RIT1	STAT3	ZIM3
ARHGAP35	CCND3	DNMT3A	FGF4	JAK1	MITF	OR2T4	POM121L12	RNASEH2A	STAT6	ZMYM3
ARID1A	CCNE1	DOCK3	FGF9	JAK2	MLH1	OR2W3	POT1	RNASEH2B	STAT5B	ZNF217
ARID1B	CD79B	DROSHA	FGFR1	JAK3	MLH3	OR4A15	PPFIA2	RNASEH2C	STK11	ZNF429
ARID2	CD163	DPYD	FGFR2	KCND2	MPL	OR4C15	PPM1D	RNF43	SUFU	ZNF479
ARID5B	CD274	DSC1	FGFR3	KCNH7	MRE11A	OR4C6	PPARG	ROS1	SYT10	ZNF536
ARMC4	CD276	DSC3	FGFR4	KCNJ5	MSH2	OR4M1	PPP2R1A	RPA1	SYT16	ZRSR2
ASXL1	CDC73	E2F1	FLT3	KDM5C	MSH3	OR4M2	PPP2R2A	RPS6KB1	TAF1	
ASXL2	CDHI	EGFR	FLT4	KDM6A	MSH6	OR5D18	PPP6C	RPL5	TAP1	
ATM	CDH10	EIF1AX	FOXL2	KDR	MTAP	OR5F1	PRDM1	RPL10	TAP2	
ATP1A1	CDK12	ELF3	FOXA1	KEAP1	MTOR	OR5L1	PRDM9	RPL22	TAPBP	
ATR	CDK4	EMSY	FOXO1	KEL	MTUS2	OR5L2	PRKACA	RPTOR	TBX3	
ATRX	CDK6	EN01	FUBP1	KIT	MUTYH	OR6F1	PRKACB	RPTN	TCF7L2	
AURKA	CDKN1A	EP300	FYN	KIR3DL1	MYB	OR8H2	PRKAR1A	RSPO2	TERT	
AURKB	CDKN1B	EPAS1	GALNT17	KLF4	MYBL1	OR8I2	PSMB8	RSPO3	TET2	
AURKC	CDKN2A	EPCAM	GATA2	KLHL13	MYC	OR8U1	PSMB9	RUNDC3B	TFE3	
AXIN1	CDKN2B	EPHA2	GATA3	KMT2A	MYCL	ORC4	PSMB10	RUNX1	TFEB	
AXIN2	CDKN2C	ERAP1	GEN1	KMT2B	MYCN	PAK5	PTCH1	RUNX1T1	TGFBR1	
AXL	CHD4	ERAP2	GID4	KMT2C	MYD88	PALB2	PTEN	SDHA	TGFBR2	
B2M	CHEK1	ERBB2	GLI1	KMT2D	MYOD1	PARP1	PTPN11	SDHB	TNFAIP3	
BAP1	CHEK2	ERBB3	GNA11	KNSTRN	NBN	PARP2	PTPRT	SDHC	TNFRSF14	
BARD1	CIC	ERBB4	GNA13	KRAS	NCOR1	PARP3	PTPRD	SDHD	TOP1	
BCL2	CIITA	ERCC2	GNAS	KRTAP21-1	NF1	PAX5	PXDNL	SETBP1	TOP2A	
BCL2L12	CNTN6	ERCC4	GNAQ	KRTAP6-2	NF2	PARP4	RAC1	SETD2	TP53	
BCL6	CNTNAP4	ERCC5	GPR158	LARP4B	NFE2L2	PBRM1	RAD50	SF3B1	TP63	
BCOR	CNTNAP5	ERG	GPS2	LATS1	NLRC5	PCBP1	RAD51	SH3RF2	TMEM132D	
BCR	COL11A1	ERRFI1	GRID2	LATS2	NOL4	PCDH17	RAD51B	SIX1	TPMT	
BLM	CREBBP	ESR1	H1-4	LRRC7	NOTCH1	PDCD1	RAD51C	SIX2	TPTE	
BMP5	CSMD3	ETV1	H2BC5	MAGOH	NOTCH2	PDCD1LG2	RAD51D	SLCO1B3	TPP2	