Pan-solid tumor liquid biopsy

Powered by TruSight™ Oncology 500 ctDNA v2

TSO 500 ctDNA v2 assay is a comprehensive genomic profiling (CGP) assay providing clinically actionable biomarker results from a simple blood draw.

With a broad ctDNA sequencing panel covering 514-genes, TSO 500 ctDNA v2 enables biomarker discovery, resistance detection and longitudinal monitoring — empowering biopharma partners to make data-driven decisions, even when tumor tissue is limited or unavailable.

514-gene panel covering all major variant classes from ctDNA sequencing

SNVs | InDels | CNVs | Fusions | bMSI | bTMB score

Results available within 7 days

Analysis and report
Standard and custom options

Sample input
Whole blood: 2x10 mL Streck Cell-Free DNA BCT® tubes
Frozen plasma: Optimal volume 4 mL (minimum 2.5 mL)

TSO 500 ctDNA v2 validation performance data

Variant class	Limit of detection (LOD)*	Analytical sensitivity	Specificity	Accuracy
SNVs/InDels	0.23%	92.01%	99.80%	99.65%
Fusions	0.50%	100.0%	100.0%	100.0%
CNVs	1.20 fold	95.0%	99.86%	99.82%

LOD90 at 30ng input

Multimodal comprehensive menu: Complement your genomic data with our extensive portfolio of assays spanning IHC, ISH, FISH, Cytogenetics, Flow, and Spatial testing.

bTMB = blood tumor mutation burden; CNVs = copy number variants; ctDNA = circulating tumor DNA; IHC = immunohistochemistry; InDels = insertions/deletions; bMSI = blood microsatellite instability; SNVs = single-nucleotide variants.

Batch testing TAT based on sample size
Clinically annotated report available upon request

TSO 500 ctDNA v2
Assay Specifications

Parameter	Specification
Panel content	• SNVs and InDels – 514 genes • CNVs – 58 genes • Fusions – 23 genes • bMSI – over 2,300 loci • bTMB score – over 1 Mb
Laboratory	Aliso Viejo, US (CLIA-certified)
Validation level	LDT

TSO 500 ctDNA v2 gene list

SNVs and Indels

ABL1	*BCL2L2*	*CDKN2C*	*EIF4A2*	*FGF1*	*GNA13*	*IKBKE*	*MAP2K2*	*NEGR1*	*PIK3C3*	*RAD51*	*SLX4*	*TET2*
ABL2	*BCL6*	*CEBPA*	*EIF4E*	*FGF2*	*GNAQ*	*IKZF1*	*MAP2K4*	*NF1*	*PIK3CA*	*RAD51B*	*SMAD2*	*TFE3*
ABRAXAS1	*BCOR*	*CENPA*	*ELOC*	*FGF3*	*GNAS*	*IL10*	*MAP3K1*	*NF2*	*PIK3CB*	*RAD51C*	*SMAD3*	*TFRC*
ACVR1	*BCORL1*	*CHD2*	*EML4*	*FGF4*	*GPS2*	*IL7R*	*MAP3K4*	*NFE2L2*	*PIK3CD*	*RAD51D*	*SMAD4*	*TGFBR1*
ACVR1B	*BCR*	*CHD4*	*EMSY*	*FGF5*	*GREM1*	*INHA*	*MAP3K13*	*NFKBIA*	*PIK3CG*	*RAD52*	*SMARCA4*	*TGFBR2*
ADGRA2	*BIRC3*	*CHEK1*	*EP300*	*FGF6*	*GRIN2A*	*INHBA*	*MAP3K14*	*NKX2-1*	*PIK3R1*	*RAD54L*	*SMARCB1*	*TMEM127*
AKT1	*BLM*	*CHEK2*	*EPCAM*	*FGF7*	*GRM3*	*INPP4A*	*MAPK1*	*NKX3-1*	*PIK3R2*	*RAF1*	*SMARCD1*	*TMPRSS2*
AKT2	*BMPR1A*	*CIC*	*EPHA3*	*FGF8*	*GSK3B*	*INPP4B*	*MAPK3*	*NOTCH1*	*PIK3R3*	*RANBP2*	*SMC1A*	*TNFAIP3*
AKT3	*BRAF*	*COP1*	*EPHA5*	*FGF9*	*H1-2*	*INSR*	*MAX*	*NOTCH2*	*PIM1*	*RARA*	*SMC3*	*TNFRSF14*
ALK	*BRCA1*	*CREBBP*	*EPHA7*	*FGF10*	*H2BC5*	*IRF2*	*MCL1*	*NOTCH3*	*PLCG2*	*RASA1*	*SMO*	*TOP1*
ALOX12B	*BRCA2*	*CRKL*	*EPHB1*	*FGF14*	*H3-3A*	*IRF4*	*MDC1*	*NOTCH4*	*PLK2*	*RB1*	*SNCAIP*	*TOP2A*
AMER1	*BRD4*	*CRLF2*	*ERBB2*	*FGF19*	*H3-3B*	*IRS1*	*MDM2*	*NPM1*	*PMAIP1*	*RBM10*	*SOCS1*	*TP53*
ANKRD11	*BRIP1*	*CSF1R*	*ERBB3*	*FGF23*	*H3-4*	*IRS2*	*MDM4*	*NRAS*	*PMS1*	*RECQL4*	*SOX10*	*TP63*
ANKRD26	*BTG1*	*CSF3R*	*ERBB4*	*FGFR1*	*H3-5*	*JAK1*	*MED12*	*NRG1*	*PMS2*	*REL*	*SOX17*	*TRAF2*
APC	*BTK*	*CSNK1A1*	*ERCC1*	*FGFR2*	*H3C1*	*JAK2*	*MEF2B*	*NSD1*	*PNRC1*	*RET*	*SOX2*	*TRAF7*
AR	*CALR*	*CTCF*	*ERCC2*	*FGFR3*	*H3C10*	*JAK3*	*MEN1*	*NTRK1*	*POLD1*	*RHEB*	*SOX9*	*TSC1*
ARAF	*CARD11*	*CTLA4*	*ERCC3*	*FGFR4*	*H3C11*	*JUN*	*MET*	*NTRK2*	*POLE*	*RHOA*	*SPEN*	*TSC2*
ARFRP1	*CASP8*	*CTNNA1*	*ERCC4*	*FH*	*H3C12*	*KAT6A*	*MGA*	*NTRK3*	*PPARG*	*RICTOR*	*SPOP*	*TSHR*
ARID1A	*CBFB*	*CTNNB1*	*ERCC5*	*FLCN*	*H3C13*	*KDM5A*	*MITF*	*NUP93*	*PPM1D*	*RIT1*	*SPTA1*	*U2AF1*
ARID1B	*CBL*	*CUL3*	*ERG*	*FLI1*	*H3C2*	*KDM5C*	*MLH1*	*NUTM1*	*PPP2R1A*	*RNF43*	*SRC*	*VEGFA*
ARID2	*CCN6*	*CUX1*	*ERRFI1*	*FLT1*	*H3C3*	*KDM6A*	*MLLT3*	*PAK1*	*PPP2R2A*	*ROS1*	*SRSF2*	*VHL*
ARID5B	*CCND1*	*CXCR4*	*ESR1*	*FLT3*	*H3C4*	*KDR*	*MPL*	*PAK3*	*PPP6C*	*RPS6KA4*	*STAG1*	*VTCN1*
ASXL1	*CCND2*	*CYLD*	*ETS1*	*FLT4*	*H3C6*	*KEAP1*	*MRE11*	*PAK5*	*PRDM1*	*RPS6KB1*	*STAG2*	*WT1*
ASXL2	*CCND3*	*DAXX*	*ETV1*	*FOXA1*	*H3C7*	*KEL*	*MSH2*	*PALB2*	*PREX2*	*RPS6KB2*	*STAT3*	*XIAP*
ATM	*CCNE1*	*DCUN1D1*	*ETV4*	*FOXL2*	*H3C8*	*KIF5B*	*MSH3*	*PARP1*	*PRKAR1A*	*RPTOR*	*STAT4*	*XPO1*
ATR	*CD274*	*DDR2*	*ETV5*	*FOXO1*	*HGF*	*KIT*	*MSH6*	*PAX3*	*PRKCI*	*RUNX1*	*STAT5A*	*XRCC2*
ATRX	*CD276*	*DDX41*	*ETV6*	*FOXP1*	*HNF1A*	*KLF4*	*MST1*	*PAX5*	*PRKDC*	*RUNX1T1*	*STAT5B*	*YAP1*
AURKA	*CD74*	*DHX15*	*EWSR1*	*FRS2*	*HNRNPK*	*KLHL6*	*MST1R*	*PAX7*	*PRKN*	*RYBP*	*STK11*	*YES1*
AURKB	*CD79A*	*DICER1*	*EZH2*	*FUBP1*	*HOXB13*	*KMT2A*	*MTOR*	*PAX8*	*PRSS8*	*SDHA*	*STK40*	*ZBTB2*
AXIN1	*CD79B*	*DIS3*	*FANCA*	*FYN*	*HRAS*	*KRAS*	*MUTYH*	*PBRM1*	*PTCH1*	*SDHAF2*	*SUFU*	*ZBTB7A*
AXIN2	*CDC73*	*DNAJB1*	*FANCC*	*GABRA6*	*HSD3B1*	*LAMP1*	*MYB*	*PDCD1*	*PTEN*	*SDHB*	*SUZ12*	*ZFHX3*
AXL	*CDH1*	*DNMT1*	*FANCD2*	*GATA1*	*HSP90AA1*	*LATS1*	*MYC*	*PDCD1LG2*	*PTPN11*	*SDHC*	*SYK*	*ZNF217*
B2M	*CDK12*	*DNMT3A*	*FANCE*	*GATA2*	*ICOSLG*	*LATS2*	*MYCL*	*PDGFRA*	*PTPRD*	*SDHD*	*TAF1*	*ZNF703*
BAP1	*CDK4*	*DNMT3B*	*FANCF*	*GATA3*	*ID3*	*LMO1*	*MYCN*	*PDGFRB*	*PTPRS*	*SETBP1*	*TBX3*	*ZRSR2*
BARD1	*CDK6*	*DOT1L*	*FANCG*	*GATA4*	*IDH1*	*LRP1B*	*MYD88*	*PDK1*	*PTPRT*	*SETD2*	*TCF3*	
BBC3	*CDK8*	*E2F3*	*FANCI*	*GATA6*	*IDH2*	*LYN*	*MYOD1*	*PGR*	*QKI*	*SF3B1*	*TCF7L2*	
BCL10	*CDKN1A*	*EED*	*FANCL*	*GEN1*	*IFNGR1*	*LZTR1*	*NAB2*	*PHF6*	*RAB35*	*SH2B3*	*TENT5C*	
BCL2	*CDKN1B*	*EGFL7*	*FAS*	*GID4*	*IGF1*	*MAGI2*	*NBN*	*PHOX2B*	*RAC1*	*SH2D1A*	*TERC*	
BCL2L1	*CDKN2A*	*EGFR*	*FAT1*	*GLI1*	*IGF1R*	*MALT1*	*NCOA3*	*PIK3C2B*	*RAD21*	*SHQ1*	*TERT*	
BCL2L11	*CDKN2B*	*EIF1AX*	*FBXW7*	*GNA11*	*IGF2*	*MAP2K1*	*NCOR1*	*PIK3C2G*	*RAD50*	*SLIT2*	*TET1*	

CNVs

AKT2	*BRCA1*	*CDK4*	*ERBB2*	*FGF1*	*FGF6*	*FGF14*	*FGFR3*	*LAMP1*	*MYCN*	*PIK3CA*	*RICTOR*
ALK	*BRCA2*	*CDK6*	*ERBB3*	*FGF2*	*FGF7*	*FGF19*	*FGFR4*	*MDM2*	*NRAS*	*PIK3CB*	*RPS6KB1*
AR	*CCND1*	*CHEK1*	*ERCC1*	*FGF3*	*FGF8*	*FGF23*	*JAK2*	*MDM4*	*NRG1*	*PTEN*	*TFRC*
ATM	*CCND3*	*CHEK2*	*ERCC2*	*FGF4*	*FGF9*	*FGFR1*	*KIT*	*MET*	*PDGFRA*	*RAF1*	
BRAF	*CCNE1*	*EGFR*	*ESR1*	*FGF5*	*FGF10*	*FGFR2*	*KRAS*	*MYCL*	*PDGFRB*	*RET*	

Fusions

ABL1	*BCR*	*CD74*	*ETV1*	*ETV6*	*FGFR2*	*NAB2*	*NTRK2*	*PAX3*	*PPARG*	*ROS1*	*TMPRSS2*
ALK	*BRAF*	*EGFR*	*ETV4*	*EWSR1*	*FGFR3*	*NTRK1*	*NUTM1*	*PAX8*	*RET*	*TFE3*	

Additional Biomarkers

bMSI *bTMB score*

For more information on TSO 500 ctDNAv2, call us at 866.776.5907, option 3, or email us at ContactPharma@NeoGenomics.com.

NeoGenomics, Inc. is a premier cancer diagnostics company specializing in cancer genetics testing and oncology data solutions. We offer one of the most comprehensive oncology-focused testing menus across the cancer continuum, serving oncologists, pathologists, hospital systems, academic centers, and pharmaceutical firms with innovative diagnostic and predictive testing to help them diagnose and treat cancer. Headquartered in Fort Myers, FL, NeoGenomics operates a network of CAP-accredited and CLIA-certified laboratories for full-service sample processing and analysis services throughout the US and a CAP-accredited full-service, sample-processing laboratory in Cambridge, England, United Kingdom.

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