Agilent

Trusted Answers

More Insights
In Sight

Comprehensive Genomic Profiling with
SureSelect Cancer CGP Assay

SureSelect Cancer CGP Assay

Unlock the full potential of comprehensive genomic profiling (CGP) to advance precision oncology with the Agilent SureSelect Cancer CGP Assay, a targeted, pan-cancer panel based on next-generation sequencing (NGS) technology. With gene content curated globally in consultation with leading cancer researchers, and drawing from established clinical guidelines, ongoing clinical trials and somatic cancer databases, you'll have access to the most clinically relevant and up-to-date biomarker content.

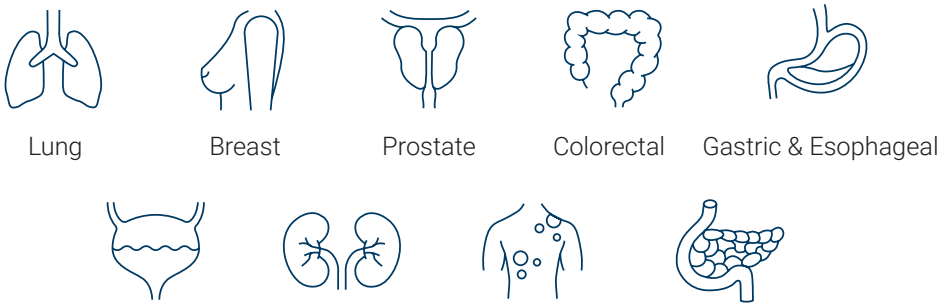
The SureSelect Cancer CGP assay gives you the ability to sequence DNA and RNA in parallel and detect key classes of somatic alterations, including single nucleotide variants (SNVs), copy number variants (CNVs), insertions/deletions (indels), translocations (TLs); immuno-oncology biomarkers Tumor Mutational Burden (TMB) and Microsatellite Instability (MSI); and RNA gene fusions. Have confidence in high-performance results optimized with error-correcting molecular barcodes, convenient enzymatic fragmentation and minimum sample input. The workflow solution is configurable to meet the needs of your lab with options to incorporate sample QC, automation, and data analysis solutions.

Comprehensive pan-cancer panel

679 genes for DNA assay

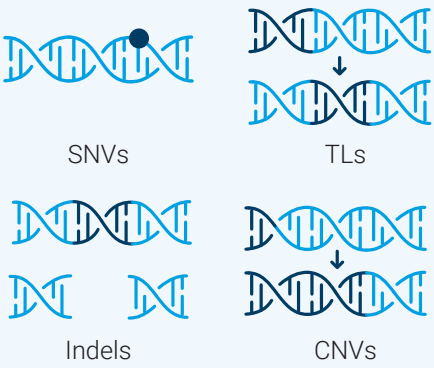
80 genes for RNA assay

Gain insight into cancer types

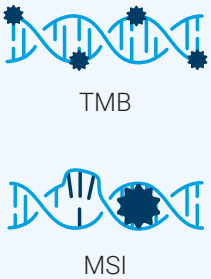


Detect key classes of mutations

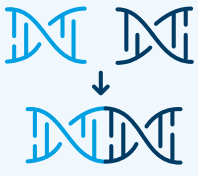
Somatic variants



Immuno-oncology biomarkers



RNA gene fusions

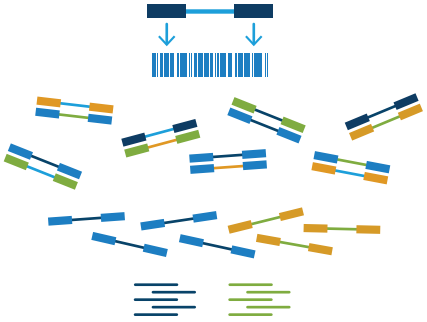


Market-leading target enrichment chemistry

The SureSelect Cancer CGP Assay is powered by industry-leading library prep and target enrichment chemistry (SureSelect XT HS2), which delivers optimal target coverage and high-complexity libraries for detection of low-frequency variant alleles and robust coverage of difficult to sequence, GC-rich genes, such as CEBPA.

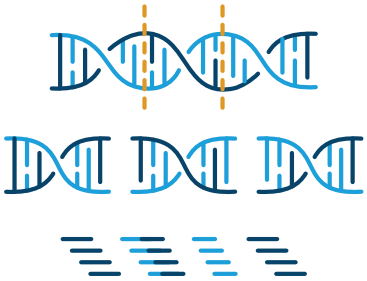
Fast hybridization

Only 90 minutes for target capture, enabling a faster workflow resulting in sequencing-ready libraries in nine hours.



Error correcting molecular barcodes

Unique molecular identifiers (UMIs) detect low-frequency variant alleles with sensitivity and accuracy and unique dual index (UDIs) correct for index hopping.



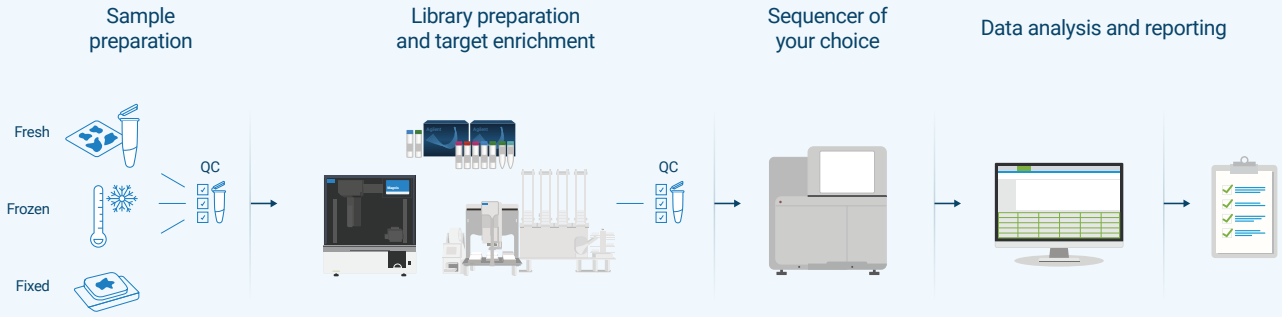
Enzymatic fragmentation

Optional enzymatic fragmentation eliminates the need for physical shearing equipment for optimal convenience, and may improve library complexity and read coverage.

Low sample input

Start with as little as 10 ng (recommended 50 ng) to as much as 200 ng nucleic acid from formalin-fixed, paraffin-embedded (FFPE) or fresh-frozen tissues, enabling more samples to be profiled.

A flexible NGS workflow solution



Achieve high-complexity NGS libraries with a flexible and efficient workflow. Opt for automated library preparation and target enrichment to go from nucleic acid sample QC to sequencing results in less than four days. Match your sample throughput to a range of compatible sequencers including the Illumina NextSeq, HiSeq and NovaSeq. Assess clinically relevant variants with the data analysis and annotation solution best suited to your lab.

3.5 days to sequencing results

Automation options

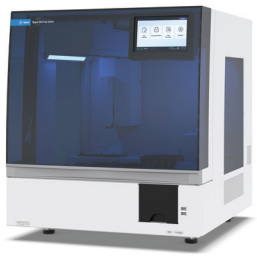
Data analysys options

Sample & library QC

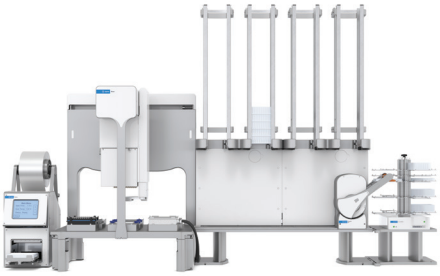
High-quality results depend on high-quality sample input. **Agilent TapeStation systems** are automated electrophoresis solutions for quality control of a wide range of DNA and RNA samples. Proven ScreenTape technology guarantees superior ease-of-use, and lets you analyze size, quantity, and integrity of your sample.

Automation for library prep and target enrichment

Prepare high-quality, sequencing-ready libraries with more consistency and lab efficiency using automation solutions for library preparation and target enrichment. Choose between two automation platforms from Agilent, both of which support enzymatic fragmentation of DNA, reverse transcription for RNA, and bead cleanup. These automation platforms offer a reagent rental program for SureSelect reagents to offset capital equipment expense.



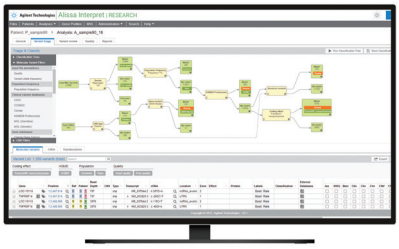
The Magnis NGS Prep system is an easy-to-use, fully automated benchtop platform that requires minimal staff and NGS expertise to run. The pre-aliquoted reagents and pre-set protocols enable set-up with only 15 min hands-on time for walkaway convenience. Onboard quality assurance capabilities include a UV light for decontamination between runs, and automated barcode scanning for correct consumables placement. The Magnis NGS Prep system can prepare up to 8 libraries per run, and up to two runs per day (2 shifts).



The Bravo NGS Workstation is a liquid handling platform for increased throughput, allowing the user to scale and prepare up to 96 libraries simultaneously, while maintaining reproducibility and quality. The open automation platform provides user flexibility in applications to adjust and optimize other assays in development.

Data analysis solutions

Data analysis for the SureSelect Cancer CGP Assay can be achieved using your in-house and third-party* software, and Agilent's Alissa Interpret software for reliable and proficient clinical decision support.



Alissa Interpret is a data interpretation and reporting software that is part of the Alissa Clinical Informatics Platform. The software offers direct access to up-to-date findings, actionable biomarkers, clinical trials and therapies. Alissa Interpret enhances performance and productivity and reduces turnaround time by building and automating variant assessment workflows, allowing you to efficiently triage and curate clinically relevant somatic variants and generate comprehensive and reliable reports.

**Please inquire*

Table 1. Gene content (DNA) in the SureSelect Cancer CGP Assay

SNVs/Indels											
ABL1	*BRAF*	*CRBN*	*EPHB2*	*FLI1*	*HNF1A*	*KRAS*	*MYH9*	*PIAS3*	*RAB35*	*SLC34A2*	*TFRC*
ABL2	*BRCA1*	*CREBBP*	*EPHB4*	*FLT1*	*HNRNPK*	*LAMP1*	*MYOD1*	*PIAS4*	*RAC1*	*SLIT2*	*TGFBR1*
ABR	*BRCA2*	*CRKL*	*ERBB2*	*FLT3*	*HOXB13*	*LATS1*	*NAB2*	*PIK3C2B*	*RAD21*	*SLX4*	*TGFBR2*
ACVR1	*BRD4*	*CRLF2*	*ERBB3*	*FLT4*	*HOXC6*	*LATS2*	*NBN*	*PIK3C2G*	*RAD50*	*SMAD2*	*TIPARP*
ACVR1B	*BRIP1*	*CSAD*	*ERBB4*	*FOXA1*	*HRAS*	*LMO1*	*NCOA2*	*PIK3C3*	*RAD51*	*SMAD3*	*TLR4*
ACVR2A	*BTG1*	*CSF1R*	*ERCC1*	*FOXA2*	*HSD3B1*	*LRP1B*	*NCOA3*	*PIK3CA*	*RAD51B*	*SMAD4*	*TMEM127*
ADGRA2 (GPR124)	*BTG2*	*CSF3R*	*ERCC2*	*FOXL2*	*HSP90AA1*	*LTK*	*NCOR1*	*PIK3CB*	*RAD51C*	*SMARCA4*	*TMPRSS2*
AJUBA	*BTK*	*CSNK1A1*	*ERCC3*	*FOXO1*	*ICOSLG*	*LYN*	*NCOR2*	*PIK3CD*	*RAD51D*	*SMARCB1*	*TNFAIP3*
AKAP9	*C11orf30*	*CTCF*	*ERCC4*	*FOXP1*	*ID3*	*LZTR1*	*NEGR1*	*PIK3CG*	*RAD52*	*SMARCD1*	*TNFRSF14*
AKT1	*CALR*	*CTLA4*	*ERCC5*	*FRS2*	*IDH1*	*MAF*	*NF1*	*PIK3R1*	*RAD54L*	*SMARCE1*	*TOP1*
AKT2	*CARD11*	*CTNNA1*	*ERG*	*FUBP1*	*IDH2*	*MAGEC3*	*NF2*	*PIK3R2*	*RAF1*	*SMC1A*	*TOP2A*
AKT3	*CASP8*	*CTNNB1*	*ERRFI1*	*FYN*	*IDO1*	*MAGI2*	*NFE2L2*	*PIK3R3*	*RANBP2*	*SMC3*	*TP53*
ALK	*CASR*	*CTRC*	*ESR1*	*GABRA6*	*IDO2*	*MALT1*	*NFKB2*	*PIM1*	*RARA*	*SMG1*	*TP53BP1*
ALOX12B	*CBFB*	*CUL3*	*ESR2*	*GATA1*	*IFNGR1*	*MAML2*	*NFKBIA*	*PIM2*	*RASA1*	*SMO*	*TP63*
ALOX15B	*CBL*	*CUL4A*	*ETS1*	*GATA2*	*IFNGR2*	*MAP2K1*	*NKX2*	*PIM3*	*RB1*	*SNCAIP*	*TP73*
AMER1	*CBLB*	*CUL4B*	*ETV1*	*GATA3*	*IGF1*	*MAP2K2*	*NKX3*	*PLCG1*	*RBM10*	*SOCS1*	*TRAF2*
ANKRD11	*CCND1*	*CUX1*	*ETV4*	*GATA4*	*IGF1R*	*MAP2K4*	*NLRC5*	*PLCG2*	*RECQL4*	*SOS1*	*TRAF3*
ANKRD26	*CCND2*	*CXCR4*	*ETV5*	*GATA6*	*IGF2*	*MAP3K1*	*NOTCH1*	*PLK2*	*REL*	*SOX10*	*TRAF7*
APC	*CCND3*	*CYLD*	*ETV6*	*GEN1*	*IKBKE*	*MAP3K13*	*NOTCH2*	*PMAIP1*	*REST*	*SOX17*	*TSC1*
APLNR	*CCNE1*	*CYP17A1*	*EWSR1*	*GID4*	*IKZF1*	*MAP3K14*	*NOTCH3*	*PML*	*RET*	*SOX2*	*TSC2*
AR	*CD22*	*DAXX*	*EZH2*	*GLI1*	*IKZF3*	*MAP3K4*	*NOTCH4*	*PMS1*	*RFWD2*	*SOX9*	*TSHR*
ARAF	*CD274*	*DCUN1D1*	*EZR*	*GNA11*	*IL10*	*MAP3K7*	*NPM1*	*PMS2*	*RFX5*	*SPEN*	*TYR*
ARFRP1	*CD276*	*DDR1*	*FAM175A*	*GNA13*	*IL6R*	*MAPK1*	*NR3C1*	*PNRC1*	*RFXAP*	*SPINK1*	*TYRO3*
ARHGAP26	*CD38*	*DDR2*	*FAM46C*	*GNAI2*	*IL6ST*	*MAPK3*	*NRAS*	*POLD1*	*RHEB*	*SPOP*	*U2AF1*
ARHGAP35	*CD44*	*DDX3X*	*FANCA*	*GNAQ*	*IL7R*	*MAX*	*NRG1*	*POLE*	*RHOA*	*SPTA1*	*UGT1A1*
ARID1A	*CD58*	*DDX41*	*FANCC*	*GNAS*	*ING1*	*MC1R*	*NSD1*	*POLQ*	*RICTOR*	*SRC*	*UVRAG*
ARID1B	*CD70*	*DDX5*	*FANCD2*	*GPC3*	*INHA*	*MCL1*	*NT5C2*	*POT1*	*RIT1*	*SRSF2*	*VEGFA*
ARID2	*CD74*	*DEFB134*	*FANCE*	*GPS2*	*INHBA*	*MDC1*	*NTHL1*	*PPARG*	*RNASEL*	*STAG1*	*VHL*
ARID5B	*CD79A*	*DHX15*	*FANCF*	*GRB2*	*INPP4A*	*MDM2*	*NTRK1*	*PPM1D*	*RNF43*	*STAG2*	*VTCN1*
ASXL1	*CD79B*	*DHX9*	*FANCG*	*GREM1*	*INPP4B*	*MDM4*	*NTRK2*	*PPP2R1A*	*ROS1*	*STAT1*	*WHSC1*
ASXL2	*CDC73*	*DICER1*	*FANCI*	*GRIN2A*	*INSR*	*MECOM*	*NTRK3*	*PPP2R2A*	*RPL22*	*STAT3*	*WHSC1L1*
ATM	*CDH1*	*DIS3*	*FANCL*	*GRM3*	*IRF1*	*MED12*	*NUP93*	*PPP4R2*	*RPL5*	*STAT4*	*WISP3*
ATR	*CDK12*	*DIS3L2*	*FANCM*	*GSK3B*	*IRF2*	*MEF2B*	*NUTM1*	*PPP6C*	*RPS6KA4*	*STAT5A*	*WRN*
ATRX	*CDK2*	*DLX1*	*FAS*	*H3F3A*	*IRF4*	*MEN1*	*P2RY8*	*PRAME*	*RPS6KB1*	*STAT5B*	*WT1*
AURKA	*CDK4*	*DNAJB1*	*FAT1*	*H3F3B*	*IRS1*	*MERTK*	*PAK1*	*PRC1*	*RPS6KB2*	*STAT6*	*XBP1*
AURKB	*CDK6*	*DNMT1*	*FBXO11*	*H3F3C*	*IRS2*	*MET*	*PAK3*	*PRDM1*	*RPTOR*	*STK11*	*XIAP*
AURKC	*CDK7*	*DNMT3A*	*FBXW7*	*HDAC1*	*JAK1*	*MGA*	*PAK7*	*PREX2*	*RRM1*	*STK40*	*XPO1*
AXIN1	*CDK8*	*DNMT3B*	*FGF1*	*HGF*	*JAK2*	*MGMT*	*PALB2*	*PRKAR1A*	*RSPO2*	*SUFU*	*XRCC2*
AXIN2	*CDKN1A*	*DOT1L*	*FGF10*	*HIF1A*	*JAK3*	*MITF*	*PARK2*	*PRKCI*	*RUNX1*	*SUZ12*	*YAP1*
AXL	*CDKN1B*	*DPYD*	*FGF12*	*HIST1H1C*	*JUN*	*MKNK1*	*PARP1*	*PRKDC*	*RUNX1T1*	*SYK*	*YES1*
B2M	*CDKN1C*	*E2F3*	*FGF14*	*HIST1H2BD*	*KAT6A*	*MLH1*	*PARP2*	*PRSS1*	*RXRA*	*TAF1*	*ZBTB2*
BAP1	*CDKN2A*	*EED*	*FGF19*	*HIST1H3A*	*KDM5A*	*MLLT3*	*PARP3*	*PRSS8*	*RYBP*	*TAF3*	*ZBTB7A*
BARD1	*CDKN2B*	*EGFL7*	*FGF2*	*HIST1H3B*	*KDM5C*	*MPL*	*PAX3*	*PSIP1*	*SDC4*	*TAP1*	*ZFHX3*
BBC3	*CDKN2C*	*EGFR*	*FGF23*	*HIST1H3C*	*KDM6A*	*MRE11A*	*PAX5*	*PSMA1*	*SDHA*	*TAP2*	*ZFP36L1*
BCL10	*CEBPA*	*EIF1AX*	*FGF3*	*HIST1H3D*	*KDR*	*MSH2*	*PAX7*	*PSMB5*	*SDHAF2*	*TAPBP*	*ZMYM2*
BCL2	*CENPA*	*EIF4A2*	*FGF4*	*HIST1H3E*	*KEAP1*	*MSH3*	*PAX8*	*PSMD1*	*SDHB*	*TBL1XR1*	*ZMYM3*
BCL2L1	*CFTR*	*EIF4E*	*FGF5*	*HIST1H3F*	*KEL*	*MSH6*	*PBRM1*	*PSMG2*	*SDHC*	*TBX3*	*ZNF217*
BCL2L11	*CHD2*	*ELAC2*	*FGF6*	*HIST1H3G*	*KIAA1549*	*MST1*	*PCBP1*	*PTCH1*	*SDHD*	*TCEB1*	*ZNF703*
BCL2L2	*CHD4*	*ELF3*	*FGF7*	*HIST1H3H*	*KIF5B*	*MST1R*	*PDCD1*	*PTEN*	*SERPINB3*	*TCF12*	*ZNF750*
BCL6	*CHD8*	*EML4*	*FGF8*	*HIST1H3I*	*KIT*	*MTAP*	*PDCD1LG2*	*PTK2*	*SERPINB4*	*TCF3*	*ZRSR2*
BCOR	*CHEK1*	*EP300*	*FGF9*	*HIST1H3J*	*KLF2*	*MTOR*	*PDGFRA*	*PTPN11*	*SETBP1*	*TCF7L2*	
BCORL1	*CHEK2*	*EPCAM*	*FGFR1*	*HIST2H3C*	*KLF4*	*MUTYH*	*PDGFRB*	*PTPRD*	*SETD2*	*TEK*	
BCR	*CIC*	*EPHA2*	*FGFR2*	*HIST2H3D*	*KLHL6*	*MYB*	*PDK1*	*PTPRO*	*SF3B1*	*TERC*	
BIRC2	*CIITA*	*EPHA3*	*FGFR3*	*HIST3H3*	*KMT2A*	*MYC*	*PDPK1*	*PTPRS*	*SGK1*	*TERT*	
BIRC3	*CKS1B*	*EPHA5*	*FGFR4*	*HLA, A*	*KMT2B*	*MYCL*	*PGR*	*PTPRT*	*SH2B3*	*TET1*	
BLM	*COL17A1*	*EPHA7*	*FH*	*HLA, B*	*KMT2C*	*MYCN*	*PHF6*	*QKI*	*SH2D1A*	*TFE3*	
BMPR1A	*CPA1*	*EPHB1*	*FLCN*	*HLA, C*	*KMT2D*	*MYD88*	*SHQ1*	*QSER1*	*SIN3A*	*TFEB*	

CNVs:
AR
BARD1
BRCA1
BRCA2
BRIP1
CCND1
CCND2
CCNE1
CD274
CDK4
CDK6
CDKN2A
ERBB2
KEAP1
KRAS
MDM2
MET
MYC
MYCN
PALB2
PIK3CA
PTEN
RAD51C
RAD51D
STK11
TP53

Translocations:
ALK: [18, 19]
BRAF: [8, 9, 10]
CIC: [18, 19]
EGFR: [24, 25, 26]
FGFR1: [3, 4, 5, 6, 7, 8, 9]
FGFR2: [17]
FGFR3: [17, 18]
NTRK1: [8, 9, 10, 11]
RAF1: [7, 8, 9]
RET: [7, 10, 11]
ROS1: [31, 33, 34, 35]
TMPRSS2: [1, 2, 3, 4]

Table 2. Gene content (RNA) in the SureSelect Cancer CGP Assay

Fusion Genes									
ABL1	*BRCA1*	*EML4*	*ETV6*	*FLT1*	*MAML2*	*MYB*	*NTRK3*	*PKN1*	*RPS6KB1*
AKT3	*BRCA2*	*ERBB2*	*EWSR1*	*FLT3*	*MAST1*	*MYC*	*NUMBL*	*PPARG*	*RSPO2*
ALK	*BRD3*	*ERG*	*FGFR1*	*INSR*	*MAST2*	*NOTCH1*	*NUTM1*	*PRKCA*	*RSPO3*
AR	*BRD4*	*ESR1*	*FGFR2*	*JAK2*	*MET*	*NOTCH2*	*PAX3*	*PRKCB*	*TERT*
ARHGAP26	*CDK4*	*ETS1*	*FGFR3*	*KDR*	*MLLT3*	*NOTCH3*	*PAX7*	*RAF1*	*TFE3*
AXL	*CIC*	*ETV1*	*FGFR4*	*KIF5B*	*MSH2*	*NRG1*	*PDGFRA*	*RELA*	*TFEB*
BCL2	*CSF1R*	*ETV4*	*FGR*	*KIT*	*MSMB*	*NTRK1*	*PDGFRB*	*RET*	*THADA*
BRAF	*EGFR*	*ETV5*	*FLI1*	*KMT2A*	*MUSK*	*NTRK2*	*PIK3CA*	*ROS1*	*TMPRSS2*

Ordering information

Complete kits			
Product description	16 Rxns	96 Rxns	96 Rxns Auto*
SureSelect Cancer CGP Assay Starter Kit , (16)	G9965A	———	———
SureSelect Cancer CGP Assay DNA+RNA Kit	———	G9966A	G9966B
SureSelect Cancer CGP Assay DNA Kit	G9967A	G9967B	G9967C
SureSelect Cancer CGP Assay RNA Kit	G9968A	G9968B	G9968C

Probes only			
Product description	16 Rxns	96 Rxns	96 Rxns Auto*
SureSelect Cancer CGP Assay Probes, DNA+RNA	5191-6990	5191-6991	5191-6992
SureSelect Cancer CGP Assay Probe, DNA	5280-0035	5280-0036	5280-0037
SureSelect Cancer CGP Assay Probe, RNA	5191-6996	5191-6997	5191-6998

Compatible with automation on Magnis NGS Prep System		
Product description	16 Rxns	96 Rxns
Magnis SureSelect Cancer CGP XT HS2 DNA Kit	G9777A	G9777B
Magnis SureSelect Cancer CGP XT HS2 RNA Kit	G9777C	G9777D

Compatible software	
Product description	
Alissa Interpret	Contact Sales

**Compatible with the automated Agilent Bravo NGS Workstation.*

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- **Alissa Interpret is a Class I Exempt Medical Device in the US, a CEIVD in the EU and a Class I IVD in Canada and Australia.**

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