

Agilent Community Design Oncology Research NGS Panels

Glasgow Cancer Core panel

"The range of investigative tools for capturing results from real-world cancer samples is expanding. We developed a cancer NGS assay, based on the Agilent SureSelect platform, that delivers high-quality, informative data at a low cost."



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Genomics is a key element in the potential of precision medicine to transform oncology. Hybrid capture-based targeted next-generation sequencing (NGS) represents a particularly promising option for cancer genomic testing, as it enables focused profiling of the broad genomic regions that are cancer relevant. This in turn allows detection of the vast majority of cancer-relevant events quickly and cost effectively, with the advantage of being compatible with FFPE tissue samples.

The Glasgow Precision Oncology Laboratory (GPOL) is a team of scientists with internationally recognized expertise in the technology, biology, and clinical utility of cancer genomics. GPOL has undertaken a detailed curation of genomic data, including the International Cancer Genome Consortium (ICGC) cohort, as well as review of published literature, to define the landscape of clinically and biologically important genomic events in cancer. The team has leveraged these insights to design SureSelect cancer NGS panels.

The Glasgow Cancer Core panel

GPOL designed the Glasgow Cancer Core panel for comprehensive profiling of actionable genomic events in solid tumors at a cost that is suitable for the healthcare system. This panel targets 174 genes for events including single nucleotide variants (SNVs), short insertion and deletions (indels), copy number variants (CNVs), large structure variants, and gene fusions (Table 1).

With the high-quality data produced by the SureSelect platform, delivered by a fast and automatable workflow, GPOL is leading the implementation of broad genomic testing. The assay based on the Glasgow Cancer Core panel will be used to screen for somatic cancer biomarkers, as well as current and emerging response and resistant markers for subject selection in clinical trials.

Agilent Community Design Program

Created with extensive knowledge in cancer genomics, the Glasgow Cancer Core panel is now commercially available through the Agilent Community Design Program (ACD) (Table 2).

ACD offers NGS panels designed by, or in collaboration with, experts in various research fields. These panels are priced significantly lower than custom-made panels of equivalent sizes, produced upon your order, and ready to ship in as little as two weeks.

Agilent has not validated the performance of the panels in the Agilent Community Design Program.

Table 1. The genes and associated variant types targeted by the SureSelect Community Design Glasgow Cancer Core panel.

AKT1	• ♦	CTNNB1	• ♦	KIT	• ♦	POLE	•
AKT2	• ♦	DAXX	•	KLF4	•	POLQ	•
AKT3	• ♦	DICER1	•	KMT2A	•	PPP2R1A	•
ALK	• ♦ *	DNMT3A	•	KRAS	• ♦	PTCH1	•
AMER1	•	EGFR	• ♦ *	MAP2K1	•	PTEN	• ♦ +
APC	• ♦	EP300	•	MAP2K2	• ■	PTPN11	•
APLN	• ♦ +	EPHA3	• ♦	MAP2K4	•	RAC1	•
AR	• ♦	ERBB2	• ♦	MAP3K1	•	RAD21	•
ARAF	•	ERBB3	•	MAPK1	•	RAD50	•
ARID1A	• ♦	ERBB4	•	MAX	•	RAF1	• ♦ *
ARID1B	•	ERG	♦ *	MCL1	♦	RB1	• ♦ +
ARID2	•	ESR1	• ♦	MDM2	♦	RET	• ♦ *
ASXL1	•	ETV6	• ♦ *	MED12	•	RHOA	•
ATM	• ♦	EZH2	• ♦	MEN1	•	RNF43	• ♦
ATR	•	FAS	•	MET	• ♦	ROS1	• *
ATRX	•	FBXW7	•	MLH1	• ♦	RPL5	•
AURKA	♦	FGF19	♦	MSH2	•	RUNX1	•
AXL	♦	FGFR1	• ♦	MSH6	•	SETBP1	•
B2M	• ♦ +	FGFR2	• ♦	MTOR	•	SETD2	•
BAP1	•	FGFR3	• ♦	MUTYH	•	SF3B1	•
BCL2	♦	FGFR4	• ♦	MYB	•	SMAD4	• ♦
BLM	•	GATA3	•	MYC	• ♦	SMARCA4	•
BRAF	• ♦ *	GNA11	•	MYCN	•	SMARCB1	•
BRCA1	• ♦ +	GNAQ	•	NBN	•	SMO	•
BRCA2	• ♦ +	GNAS	•	NF1	• ♦	SOCS1	• ♦
CBL	•	H3F3A	•	NF2	•	SPOP	•
CCND1	• ♦	H3F3B	•	NFE2L2	• ♦	SRC	♦
CCND2	♦	HGF	♦	NOTCH1	• ♦	STAG1	•
CCND3	• ♦	HIST1H3B	•	NOTCH2	• ♦	STAG2	•
CCNE1	♦	HIST1H3C	•	NOTCH3	• ♦	STAT3	• ♦
CD274	• ♦ *	HIST2H3C	•	NOTCH4	• ♦	STAT5B	•
CD58	• ♦	HLA-A	• ♦ +	NPM1	•	STK11	• ♦
CDK12	•	HLA-B	• ♦ +	NRAS	•	SYK	• ♦
CDK2	♦	HLA-C	• ♦ +	NTRK1	• ♦ *	TERT	♦ * ■
CDK4	• ♦	HNF1A	•	PALB2	• ♦	TGFBR2	•
CDK6	♦	HRAS	•	PBRM1	•	TP53	• ♦ +
CDKN1A	•	IDH1	•	PDCD1LG2	• ♦	TSC1	• ♦ +
CDKN1B	• ♦	IDH2	•	PDGFRA	• ♦	TSC2	• ♦
CDKN2A	• ♦ +	IGF1R	♦	PDGFRB	• ♦	U2AF1	•
CDKN2B	• +	JAK1	• ♦	PHF6	•	VHL	•
CHEK2	•	JAK2	• ♦	PIK3CA	•	WT1	• ♦
CIITA	• ♦	JAK3	• ♦	PIK3CB	• ♦	YAP1	♦
CREBBP	•	JUN	♦	PIK3R1	•		
CTCF	•	KDR	•	PMS2	•		

Targeted variant types:

• coding exons ♦ copy number * rearrangement ■ regulatory region + full footprint

Table 2. Ordering information for the SureSelect Community Design Glasgow Cancer Core panel. **These part numbers cover the capture probe libraries only. Library prep and target enrichment reagent kits must be purchased separately.**

Part Number	Product Description
5191-6729	SureSelect XT Community Design Glasgow Cancer Core panel, 16 rxn
5191-6730	SureSelect XT Community Design Glasgow Cancer Core panel, 96 rxn
5191-6731	SureSelect XT Community Design Glasgow Cancer Core panel, 96 rxn, Auto
5191-6732	SureSelect XT Community Design Glasgow Cancer Core panel, 480 rxn, Auto
5191-6733	SureSelect XT2 Community Design Glasgow Cancer Core panel, 96 rxn
5191-6734	SureSelect XT2 Community Design Glasgow Cancer Core panel, 96 rxn, Auto
5191-6735	SureSelect XT2 Community Design Glasgow Cancer Core panel, 480 rxn, Auto
5191-6736	SureSelect XT HS Community Design Glasgow Cancer Core panel, 16 rxn
5191-6737	SureSelect XT HS and XT Low Input Community Design Glasgow Cancer Core panel, 96 rxn
5191-6738	SureSelect XT HS and XT Low Input Community Design Glasgow Cancer Core panel, 96 rxn, Auto
5191-6739	SureSelect XT HS and XT Low Input Community Design Glasgow Cancer Core panel, 480 rxn, Auto
5191-6740	SureSelect XT Low Input Pre-capture Pooling Community Design Glasgow Cancer Core panel, 96 rxn
5191-6741	SureSelect XT Low Input Pre-capture Pooling Community Design Glasgow Cancer Core panel, 96 rxn, Auto
5191-6742	SureSelect XT Low Input Pre-capture Pooling Community Design Glasgow Cancer Core panel, 480 rxn, Auto

For technical support, please contact ngs.support@agilent.com

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