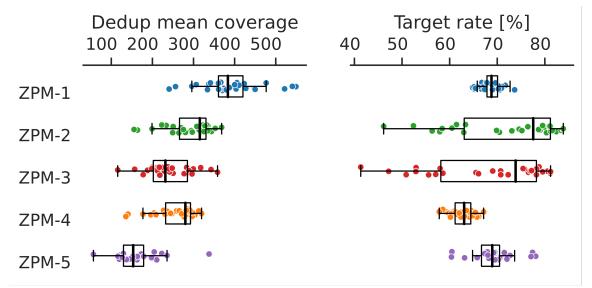
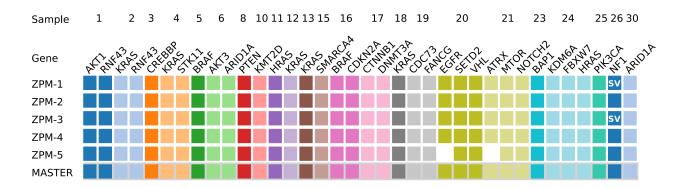
Supplementary Figure 1



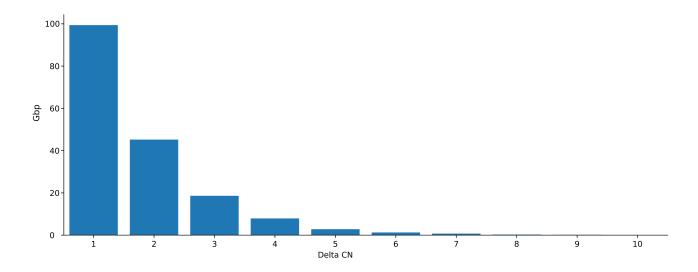
Quality measurements of the participating institutions with on-target rates and mean coverages after duplication for each sample. Boxplots show the median, upper and lower quartiles and whiskers up to 1.5 times of the box size.

Supplementary Figure 2



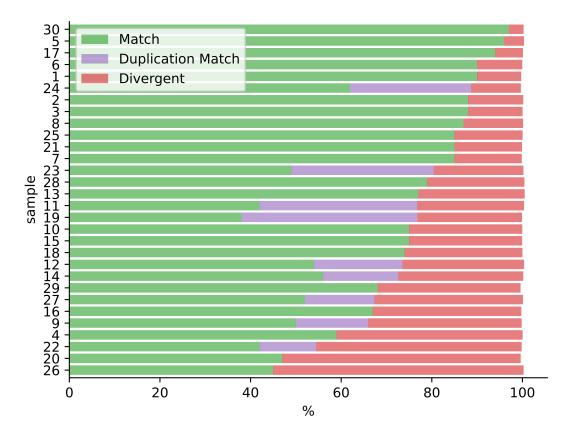
Comparison of therapeutically relevant variants reported in the DKFZ/NCT/DKTK MASTER program to variants found by the participating institutions.

Supplementary Figure 3



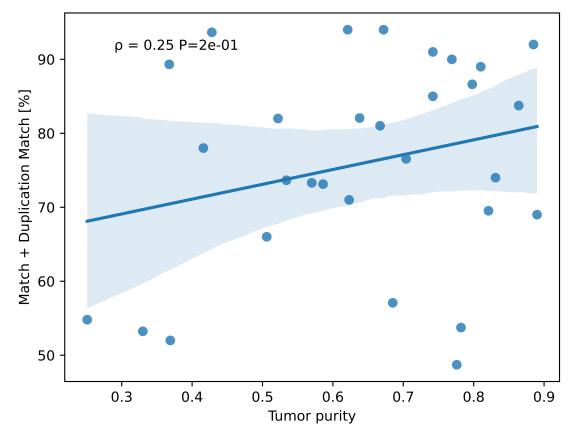
Differences of copy numbers between institutions for non-matching genomic regions.

Supplementary Figure 4



Analysis of copy number calls from all institutions using the same pipeline. In comparison to Figure 4 a no significanct improvement is observed by using the same pipeline.

Supplementary Figure 5



Agreement of copy number changes in contrast to tumor purity. The correlation shows an increased agreement for samples with high tumor purity.

Supplementary Table 1

Pseudonym	Entity	Tumor purity (Pathologist)
ZPMWES-T1	Adenocarcinoma of the appendix	64
ZPMWES-T10	Parathyroid carcinoma	81
ZPMWES-T11	Thymic squamous cell carcinoma	56
ZPMWES-T12	Adenocarcinoma of the rectum	68
ZPMWES-T13	Adenocarcinoma of the colon	54
ZPMWES-T14	Carcinosarcoma (MMMT) of the uterus	81
ZPMWES-T15	Adenocarcinoma of the lung	54
ZPMWES-T16	Papillary thyroid carcinoma	55
ZPMWES-T17	Desmoid fibromatosis	80
ZPMWES-T18	Adenocarcinoma of the colon	50
ZPMWES-T19	Parathyroid carcinoma	60
ZPMWES-T2	Adenocarcinoma of the appendix	72
ZPMWES-T20	Sarcomatoid renal cell carcinoma	81
ZPMWES-T21	Parathyroid carcinoma	52
ZPMWES-T22	Sarcoma, NOS	55
ZPMWES-T23	Epithelioid pleural mesothelioma	54
ZPMWES-T24	Salivary duct carcinoma of the parotid	52
ZPMWES-T25	Basal cell adenocarcinoma of the parotid	75
ZPMWES-T26	High grade serous carcinoma of the ovary	56
ZPMWES-T27	Nonseminomatous mixed germ cell tumor of the testis	76
ZPMWES-T28	Adult granulosa cell tumor malignant	76
ZPMWES-T29	NUT carcinoma of the paranasal sinus	63
ZPMWES-T3	Juvenile granulosa cell tumor of the ovary	46
ZPMWES-T30	Angiosarcoma of the breast	55
ZPMWES-T4	Ductal adenocarcinoma of the pancreas	58
ZPMWES-T5	Papillary thyroid carcinoma	76
ZPMWES-T6	Neuroendocrine tumor (NET, G2) of the lung	59
ZPMWES-T7	Thymoma	56
ZPMWES-T8	Intrahepatic cholangiocarcinoma	52
ZPMWES-T9	Mixed germ cell tumor of the testis	90

	ZPM-1	ZPM-3	ZPM-4	ZPM-5
Case	DNA [ng]	DNA [ng]	DNA [ng]	DNA [ng] T/N
	100	100	178	100/100
2	100	100	116	100/100
3	100	100	37	100/100
4	100	100	118	100/100
5	100	100	116	100/100
6	100	100	84	100/100
	100	100	120	100/100
	100	100	108	100/100
	100	100	112	100/100
	100	100	110	100/100
	100	100	106	100/100
	100	100	112	100/100
	100	100	112	100/100
				100/100
	100	100	106 106	100/100
	100	100	104	100/100
	100	100	157	100/100
	100	100	110	100/100
	100	100	112	100/100
	100	100	165	100/100
	100	100	110	100/100
22	100	100	56	100/100
23	100	100	116	100/100
	100	100	114	100/100
25	100	100	110	100/100
26	100	100	114	100/100
27	100	100	108	100/100
28	100	100	110	100/100
29	100	100	114	100/100
	100	100	113	100/100
Manufacturer sequencer	Illumina	Illumina	Illumina	Illumina
	Novaseq 6000	NextSeq 550	Novaseq 6000	Novaseg 6000 / Nextseg 550Dx
	\$2	High Output	cp	SP / S2 / High Output
	200	300	200	149
cycles	200	300	200	149
. 16	Twist (Twist EF Library Prep 2.0)	A-U	To dea	To date
		Agilent	Twist	Twist
	Illumina NovaSeq 6000 S2 Rgt Kit v1.5 (200cyc)	NextSeq 500/550 HighOutput Kit v2.5 (300 Cycles), Cat# 20024908, Illumina	Twist	Twist
Enrichment Kit	Twist Standard Hyb Kit, Twist Comprehensive Exome + Custom Panel Design ID: TE-94167158 -20°C 101042 Twist Standard Hybridization and Wash Kit v1: 104178 (12rxn)	SureSelect XT Human All Exon V8	Twist Exome 2.0	Twist Exome 2.0
	Twist Er Library Prep 20: 104207 (96ron) Twist Hybridization Reagents (Box J. 20°C Twist Wash Buffers (Box2) 2-8°C Twist Universal Blockers: 100578 (12ron) 100707 (96ron) Universal Blockers: 100578 (12ron) 100707 (96ron) Universal Blockers & Blocker Solution - 20°C Twist Binding and Purification Beads: 100983 (12ron) Streptavidin Binding Beads DNA Purification Beads 2-8°C NEBNext* Ultra** II 0.5** Master Mix - 20°C M0544 © 5°F High- Fielding DNA Polymerase- 20°C M0491 Twist Universal Adapter System (AD153 Barcode Product Number 30-05150-00) Twist Universal Adapter System	SSELXT Human All Exon V8, Cat. # 5191-6891, Agilent SureSelect XT H52 Index Primer Pairs for ILM Universal adapter system (TruSeq)	Twist Universal Blockers, 12rxn, 100578 Twist Std Hyb and Wash Kit v2 with amp mix, 12rxn, 105560 Twist Dry Down Beads, 12rxn, 104325 IOT Adapter Universal adapter system	TWIST Library Preparation Kit, Mechanical Fragmentation with amp Mix, 96 rxn 10477 1x TWIST Universal Adapter System Plate A 96 well 101308 1x TWIST Universal Blockers, 12 rxn 100578 1x TWIST Universal Blockers, 12 rxn 100578 1x TWIST Ory Down Beads 12 rxn 104325 1x TWIST Ory Down Beads 12 rxn 104325 1x TWIST Comprehensive Exome 12 rxn 102032 1x Twist Adapter Twist Adapter TWIST Universal Preparation Kit Mechanical Fragmentation with amp Mix 96 rxn 10477
Library Prep Kit	Twist Universal Adapter System TruSeq-kompatibel, 16 Proben -20°C 101307 Platte A -20°C 101308 Platte 8 -20°C 101309 Platte C -20°C 101310 Platte D -20°C 101311	SureSelect XT HS2 DNA Reagent Kit with Index Primer Pairs, Cat# G9983A, Agilent SureSelect XT Human All Exon V8 (hg19)	Twist Library Preparation Kit, Mechanical, Fragmentation with amp mix, 96xxn, 104177 Twist UMI Adapter System - TruSeq Comp, Sample Plate A, 96weil, 105041 Twist Exome 2.0, +CompExome spike-in, 12rxn, 105229 Twist Exome 2.0	TIMST Library Preparation Kit, Mechanical Fragmentation with amp Mix, 96 rxn 10477 TIMST Universal Adapter System Paite A 95 well 101308 TIMST Universal Blockers, 12 rxn 100578 Tivst Hybridization and Wash kit mit Amplifikationsmix, 12 rxn 104178 TIWST Dry Down Beeds 12 rxn 104325 TIWST Comprehensive Exome 12 rxn 102032 TIWST Comprehensive Exome 12 rxn 102032
	Twist Comprehensive Exome + Custom Panel	Yes Yes	TWIST EXOTTIE 2.0	TWIST EXOTTLE 2.0

Supplementary Table 2

			ZPM-1	ZPM-2	ZPM-3	ZPM-4	ZPM-5	
		Genom	hg19 (liftover)	hg19	hg19	hg19	hg19	
Biomarker	TMB	Coverage	20 (3 variant reads)	8x (4 Varianten Reads)	50	100	100	
		Counting	SNV + INDEL	SNV + INDEL	SNV + INDEL	SNV + INDEL	SVN + INDEL	
		VAF threshold	0.05 in tumor && < 0.17*tumor_freq in normal	0.05	0.05	0.035	0.05	
		Exone_filter	FALSE	TRUE	TRUE	TRUE	TRUE	
		Region coverage	20	50	50	100	100	
	MSI	Tool	Mantis	Msisensor-pro Msisensor-pro 10% 10%		Msisensor-pro	Msisensor-pro	
		Cutoff	40%			10%	10%	
		MSI parameter	-mrq 20 -mlq 25 -mlc 20 -mrr 1	-c 20	default parameters	-c 20	-c20 -f0.05 -q3	
	HRD	Segmentation	ClinCNV	Sequenza Sequenza		Sequenza	Sequenza	
		Segmentation parameter	colNum 4lengthS 9scoreS 200filterStep 2hg38	-w 50	default parameters		sequenza-utils bam2seqz -gc hg19gc50base.wiggle	
			reanalyseCohort FALSE				(gc_wiggle -w50> gc50base-wiggle> -gc hg19gc50base) scarHRD	
		Scoring	scarHRD	scarHRD	scarHRD	scarHRD		
		Scoring parameter			default parameters		sequenza-result, ploidy0=ploidy, sizelimitLOH=15e6	
Somatic variants		Variantcaller	Strelka2	VarScan2 + Mutect2	Manta + Strelka2	Dragen	Mutect2	
		Variantcaller parameter	exomeindelCandidates [indelCandidates.vcf.gz]	min-coverage 8 (VarScan2); callable-depth 8 (Mutect2)	CallRegion Agilent S33266340 exomeindelCandidates	vc-callability-tumor-thres 20	minimumMappingQuality=1 -minBaseQualityScore=10, intervalPadding=50	
		VAF threshold	0.05 in tumor && < 0.17*tumor_freq in normal	0.05	0.05	0.035 / 0.05	0.05	
		Basequality		28	20		25	
		Coverage threshold	20 (3 variant reads)	8x (4 Varianten Reads)	50	50 – 200	10	
		Annotation	VEP	ANNOVAR + snpEff	ANNOVAR	ANNOVAR + snpEff	VEP	
CNV		Tool	ClinCNV	Control-FREEC	Sequenza	Sequenza	Sequenza	
		CNV parameter	colNum 4lengthS 9scoreS 200filterStep 2 hg38reanalyseCohort FALSE	breakPointType: 4; breakPointThreshold: 1.2; MinCNAlength: 3; readCountTreshold: 50; window: 0	ploidy = seq(1, 5.5, 0.1); Female=TRUE/FALSE		sequenza-utils bam2seqz -gc hg19gc50base.wiggle (gc_wiggle -w50> gc50base-wiggle> -gc hg19gc50base)	

ABCBS CARDIL CRIC ERG GLIL KDMSC MPL P3H1 PTCH1 RUNX1 TERT ABL2 COL CSF2RA ESR1 GLIZ KDMSC MPL P3H1 PTCH2 SBDS TET3 ABRAXASI CCND2 CSF3R EST31 GNAQI KDM6 MR411 PAK4 PTEN SDHAP2 TET3 ADDGA2A CCND3 CTAGAB EWSR1 GNAQ KIF1B MSH2 PARP1 PTFN1 SDHA TET3 AIP CCNC1 CTM44 EXT1 GNAS KIF2DL1 MSH6 PARP2 PTFN11 SDHD TMFR51 AIT CCR2 CCTM4 CXC12 EP72 SPR0A KIR2DL3 MST1R PAR3 PTFN1 SDHD TMFR52 AKT3 CCC75 CXCK4 FANCA GST11 KITG MTC0 PAX2 PTPR1 SSB12 TTRAP3 ALK CD17 CYP3.5 FANCE HS73A KMT2A </th <th>ABCB1</th> <th>CAMTA1</th> <th>CRKL</th> <th>ERCC6</th> <th>GATA2</th> <th>JUN</th> <th>MMS19</th> <th>OSM</th> <th>PRKAR1A</th> <th>RSPO3</th> <th>TEK</th>	ABCB1	CAMTA1	CRKL	ERCC6	GATA2	JUN	MMS19	OSM	PRKAR1A	RSPO3	TEK
ABL2 CCND1 CSF2RA ESF1 GL13 KDM6A MRE11 PALAG PTEN SDHAC TET2 ABRAXASI CCND2 CSF3R ETS1 GNA1 KDR MS41 PALB2 PTFGFR SDHAC TFE3 ADORA2A CCND3 CTAG1B EWSR1 GNA2 KIR2DL2 MSH2 PARP1 PTPN11 SDHB TGGB1 AIF CCR6 CCR1 CTLM4 EXT1 GNA3 KIR2DL2 MSH0 PARP3 PTPN12 SDHD TMRFSSE2 AKT3 CCR4 CXCL12 EZH2 GPRC5A KIR2DL3 MST1R PAX3 PTPN2 SEM1 TMRSAL2 AKT3 CCR4 CXCL12 EZH2 GPRC5A KIR2DL3 MST1R PAX3 PTPN2 SEM1 TMRSAL2 ALK CC192 CXCAC ASTACA ASTACA GSTM1 KIT MUTH PAX3 PTPN2 SEM1 TMRSAL3 ARIK CCD27 CXXX FANCC				ERG			MN1		PTCH1		
ABRAXASI CCND2 CSF3R ETS1 GNA11 KDR MSA41 PALB2 PTGFR SSHAF2 TFE3 ADORA2A CCNB1 CTLA4 EWST1 GNAQ KIF1B PARP1 PTPN1 SDHB TGB1 AKT1 CCNE1 CTNNB1 EXT2 GPC3 KIR2DL1 MSLN PARP2 PTPN12 SDHD TMBR32 AKT3 CCR4 CXCL12 EZT2 GPRC5A KIR2DL3 MSTLR PAX3 PTPN2 SEM1 TMBR934 AKT3 CCR5 CXCR4 FANCB GSTM1 KITL MTG PAX3 PTPR2 SEM12 TMFRF18 AK CD19 CYP3A5 FANCB GSTM1 KITL MTG PAX3 PTPR2 SEM12 TMFRF18 AK CD19 CYP3A5 FANCB GSTM1 KITL MTGT PAX5 PTPRF SET02 TMFRF18 AK CD27 CYP3A5 FANCB GSTM1 KITLB MYCT1 <	ABL1	CBL	CSF1R	ERRFI1	GLI2	KDM5C	MPL	P3H1	PTCH2	SBDS	TET1
ADDRA2A CCN03	ABL2	CCND1	CSF2RA	ESR1	GLI3	KDM6A	MRE11	PAK4	PTEN	SDHA	TET2
AIP CCNEL CTLA4 EXT1 GRNS KIR2DLI MSLD PARP3 PTPN11 SDHC TMEMISTS AKT1 CCR2 CXCR14 EXT2 GPC3 KIR2DL3 MSLN PAR3 PTPN12 SDHD TMBRS4X AKT3 CCR5 CXCR4 FAMSOA GRM1 KIT MTOR PAX5 PTPR5 SETD2 TMFAP18 AKT3 CCR5 CXCR4 FAMCB GSTM1 KITC MTOR PAX5 PTPR5 SETD2 TMFAP18 APC CD27 CYP3A5 FAMCB GSTM1 KITC MTOR PAX5 PTPR7 SF3B1 TNFRSF18 ARPC CD27 CYP3A5 FAMCB GSTM1 KIB MYCT PDCD1 RAB5 SLC1366 TMFRSF18 ARAP CD270 DDR1 FAMCB HDAC2 KMT2 MYCN PDGF0 RAD18 SMACA1 TSP1 ARHGAP12 CD70 DDR1 FAMCB HGY KMT2 <	ABRAXAS1	CCND2	CSF3R	ETS1	GNA11	KDR	MS4A1	PALB2	PTGFR	SDHAF2	TFE3
AKT1 CCR2 CTNNB1 EXT2 GPG3 KIR2DL3 MSTLR PARP3 PTPNL2 SDHD TMPRSS2 AKT2 CCR4 CXCL12 EZH2 GPRC5A KIR2DL3 MSTLR PAX3 PTPNE SETD2 TMFARP3 ALK CD19 CYLD FAMCA GSTM1 KIT MTOR PAX5 PTPRF SETD2 TMFARP3 ALK CD274 CYPAS FAMCB GSTM1 KIT MTOR PAX5 PTPRF SETD2 TMFARP3 ARAR CD274 CYPAS FAMCB GSTM1 KITC MYC PDCD1 RAB35 SLC39A6 TNFRSF9 ARAR CD276 DDB2 FAMCB HAVCB KMT2B MYCL1 PDCD11 RAB35 SLC39A6 TNFRSF9 ARHGAP26 CD40 DDB2 FANCB HAVCB KMT2B MYCL1 PDCD11 RAB35 SLC39A6 TNFRSF9 ARHGAP61 CD40 DDR2 FANCB HAVCB K	ADORA2A	CCND3	CTAG1B	EWSR1	GNAQ	KIF1B	MSH2	PARP1	PTPN1	SDHB	TGFB1
AKT2 CCR5 CXCL12 EZH2 GPRC5A KIR2DL3 MST1R PAX5 PTPN2 SEM1 TMSB4X AKT3 CCR5 CXCR4 FAMS0A GRM1 KIT MTOR PAX5 PTPR2 SEM1 TMFRSF18 APC CD276 CYP235 FANCB GST11 KIB MYD PBRM1 PTPRK SHH TMFRSF18 AR CD276 DD81 FANCB KST1 KIB MYC PDCD1 RAB35 SLC39A6 TNFRSF9 ARAF CD276 DD81 FANCB HAYCR2 KMT2A MYC PDCD1L RAB35 SLC39A6 TNFRSF9 ARHGAP6 CD57 DD81 FANCB HSANC KWT2C MYCD1 PDG5B RAD51 MYAD1 TFB ARHGAP6 CD57 DDR1 FANCB HSC KWT2C MYCD1 PDGFRA RAD51D SMACAL1 TSC1 ARHGAPE1 CD73 DIS32 FANCB HCRA KWR2A	AIP	CCNE1	CTLA4	EXT1	GNAS	KIR2DL1	MSH6	PARP2	PTPN11	SDHC	TMEM127
AKT3 CCR5 CXCR4 FAM30A GRM1 KIT MTOR PAX5 PTPRF SETD2 TNFAIPS ALK CD19 CYLD FANCA GSTM1 KITLG MUTH PAX7 PTPRI SF3H1 TNFRSF18 APC CD274 DAXX FANCE L3F3A KMT2A MYC PDCD11 RAB35 SLC39A6 TNFRSF9 ARAF CD276 DDB1 FANCE HAVCR2 KMT2B MYCN PDCD11 RAB35 SLC39A6 TNFRSF9 ARHGAP26 CD40 DDB1 FANCE HAVCR2 KMT2B MYCN PDGFA RAD51 SLX1 TPTE ARHGAP6 CD50 DDR1 FANCE HEY1 KMT2B MYCN1 PDGFA RAD51 SMACA1 TRTP ARHGAP1 CD70 DDR1 FANCE HEY1 KMT2B MYC1 PDGFAR RAD51 SMACA1 TSC1 ARHGAPA CD73 DISL2 FANCE HSPA KKR2	AKT1	CCR2	CTNNB1	EXT2	GPC3	KIR2DL2	MSLN	PARP3	PTPN12	SDHD	TMPRSS2
ALK CD19 CYLD FANCA GSTM1 KITLG MUTYH PARX PTPRJ SF3B1 TNFRSF18 APC CD274 DAXX FANCD H373A KMT2A MYC PDCD1 RAB35 SLC39A6 TNFRSF9 ARHGAP26 CD276 DDB1 FANCD2 HAVC22 KMT2A MYCL1 PDCD1LG2 RAD50 SLX4 TPTE ARHGAP6 CD5 DDIT3 FANCE HDAC2 KMT2D MYCL1 PDGFA RAD50 SLX4 TPTE ARHGAP6 CD5 DDIT3 FANCE HBY1 KMT2D MYCN1 PDGFA RAD51 SMAD4 TRPJ ARHGAP6 CD70 DDR1 FANCE HBY1 KMT2D MYCD1 PDGFA RAD51B SMAD4 TRPJ ARHGAP1 CD799 DICER1 FANCI HACA KRS2 MYCOV PDGFR RAD51B SMACAL1 TSC1 ASPSCR1 CD73 DIS312 FANCH HORMAD2	AKT2	CCR4	CXCL12	EZH2	GPRC5A	KIR2DL3	MST1R	PAX3	PTPN2	SEM1	TMSB4X
APC CD27 CYP3A5 FANCB GSTT1 KLB MYB PBRM1 PTPRK SHL TNFRSF9 ARAF CD276 DDB1 FANCD H3F3A KMT2A MYCL PDCD11G2 RAB35 SLC39A6 TNFRSF9 ARHGAP26 CD40 DDB1 FANCD HAVCR2 KMT2B MYCN PDGFA RAD51 SLFN11 TPTE ARHGAP26 CD5 DD173 FANCF HEY1 KMT2D MYCN PDGFA RAD51 SMACA TRPTE ARHGEF12 CD70 DDR1 FANCB HGF KRAS MYBB PDGFR RAD51 SMACAL TRPT ARHOADA CD79B DDR2 FANCL HGF KRAS MYBB PDGFR RAD51B SMACAL1 TSC1 ASCL1 CD79B DDR2 FANCL HORMAD LATS1 NAB PDGFR RAD51D SMACAL1 TSC1 ASSC1 CDC73 DIS32 FANCL HORMAD LATS1 <td>AKT3</td> <td>CCR5</td> <td>CXCR4</td> <td>FAM30A</td> <td>GRM1</td> <td>KIT</td> <td>MTOR</td> <td>PAX5</td> <td>PTPRF</td> <td>SETD2</td> <td>TNFAIP3</td>	AKT3	CCR5	CXCR4	FAM30A	GRM1	KIT	MTOR	PAX5	PTPRF	SETD2	TNFAIP3
ARA CD274 DAXX FANCC H353A KMT2A MYC PDCD1LG2 RAB35 SLC39A6 TNFRSF9 ARAFA CD276 DDB1 FANCD2* HAVCR2 KMT2B MYCL1 PDCD1LG2 RAD30 SLX4 TTFE ARHGAP6 CD40 DDB2 FANCE* HEY1 KMT2C MYCN1 PDGFA RAD50 SLX4 TTRF ARHGAP6 CD50 DDIT3 FANCE* HEY1 KMT2D MYCN1* PDGFB RAD51 SMAC4 TRIM37 ARIGLA CD79B DDR2 FANCH HCA* KSR2 MYCOV PDGFRA RAD51B SMACAL1 TSC1 ASPSCR1 CD073 DIS3L2 FANCH HORMAD1 LAG3 MYCOV PDGFRA RAD51B SMACB1 TSC2 ASPSCR1 CD073 DIS3L2 FANCH HORMAD2 LATS1 NAB2 PHF1 RAD51C SMACB1 TSC2 ASPSCR1 CD611 FASCB HRAS LIG1	ALK	CD19	CYLD	FANCA	GSTM1	KITLG	MUTYH	PAX7	PTPRJ	SF3B1	TNFRSF18
ARAF CD276 DBB1 FANCD2 HAVCR2 KMT2B MYCL1 PDCD1LG2 RAD18 SLFN11 TP53 ARHGAP26 CD40 DDB2 FANCE HDAC2 KMT2C MYCN1 PDGFA RAD50 SLX4 TPTE ARHGAP6 CD5 DDIT3 FANCE HCF1 KMT2D MYCN1 PDGFRB RAD51 SMAPCA4 TRAP1 ARHGAP6 CD79 DDR2 FANCI HLAA KSR2 MYD01 PELP1 RAD51B SMARCAL1 TSC1 ARID1A CD798 DDR2 FANCI HORMAD1 LAG3 MYD01 PELP1 RAD51B SMARCA1 TSC1 ASPSCR1 CDC73 DIS3L2 FANCI HORMAD1 LAG3 MYD01 PELP1 RAD51B SMARCA1 TSC1 ASPSCR1 CDC11 DLB1 FASLG HRAS LIG1 NBN PHF1 RAD51B SMARCA1 TSC1 ATR CDK11 DL13 FASLG HRAS	APC	CD27	CYP3A5	FANCB	GSTT1	KLB	MYB	PBRM1	PTPRK	SHH	TNFRSF4
ARHGAP26 CD40 DDB2 FANCE HDAC2 KMT2C MYCN PDGFA RAD50 SLX4 TPTE ARHGAP6 CD5 DD13 FANCE HEY1 KMT2D MYCT1 PDGFB RAD51 SMAD4 TRAPI ARIDIA CD79B DDR2 FANCI HGF KRAS MYB08 PDGFRA RAD51B SMARCAL TRIM37 ASCL1 CD99 DICERI FANCI HCA-A KSR2 MYEOV PDGFRB RAD51B SMARCAL TSC1 ASCL1 CD073 DIS3L2 FANCH HORMAD2 LATS1 NAB2 PHF1 RAD51D SMARCAL1 TSC2 ATM CDH17 DLEU1 FASCH HPS1 LCK NAMPT PHF6 RAD51B SMAC TSHR ATRX CDK11 DNMT3 FASCH HPS1 LCK NAMPT PHF6 RAD51B SMAC TSSK3 ATRX CDK11 FASCH HRS9 LPK LD16	AR	CD274	DAXX	FANCC	H3F3A	KMT2A	MYC	PDCD1	RAB35	SLC39A6	TNFRSF9
ARHGAP6 CD5 DDIT3 FANCE FANCE HEY1 KMT2D MYCT1 PDGFB RAD51 SMAD4 TRAP1 ARHGEF12 CD70 DDR1 FANCE HGF KRAS MYD88 PDGFRA RAD51AP1 SMARCA4 TRIM37 ARID1A CD798 DICER1 FANCI HLA-A KSR2 MYEOV PDGFRB RAD51B SMARCAL1 TSC1 ASSC11 CD99 DICER1 FANCI HORMAD1 LAG3 MYOD1 PELP1 RAD51B SMARCAL1 TSC1 ASPSCR1 CDC073 DIS312 FANCM HORMAD2 LAT51 NAB2 PHF1 RAD51B SMARCB1 TSC2 ASPSCR1 CDL01 DLEU1 FAS HSR3 LIG1 NBN PHLPP1 RAD54B SMO TSK1R ATR CDH1 DLEU1 FASLG HRAS LIG1 NBN PHLPP1 RAD54B SMO TSK3 ATR DLEU1 FASLG HRAS LIG1	ARAF	CD276	DDB1	FANCD2	HAVCR2	KMT2B	MYCL1	PDCD1LG2	RAD18	SLFN11	TP53
ARHGEF12 CD70 DDR1 FANCG HGF KRAS MYD88 PDGFRA RAD51AP1 SMARCA4 TRIM37 ARID1A CD798 DDR2 FANCI HLA-A KSR2 MYEOV PDGFRA RAD51D SMARCAL1 TSC1 ASCL1 CD99 DICERI FANCI HORMADI LAG3 MYOD1 PELP1 RAD51D SMARCAL1 TSC1 ASPSCR1 CDC73 DIS3L2 FANCM HORMADI LATS1 NAB2 PHF1 RAD51D SMARCAL1 TSC1 ATM CDH1 DLL3 FASLG HRAS LIG1 NBN PHHPP1 RAD54L SOC51 TYR ATR CDH1 DLMT3A FBSW7 HSP90AB1 LMTK3 NCO42 PHOX2B RAF1 SOX10 UBEZN AURKA CDK12 DOT1L FGF1 HSP90AB1 LZTR1 NF1 PHK3C2G RAP1B SPTA1 USP11 AURKC CDK2 DUX4 FGF2 HSP90BA1	ARHGAP26	CD40	DDB2	FANCE	HDAC2	KMT2C	MYCN	PDGFA	RAD50	SLX4	TPTE
ARID1A CD79B DDR2 FANCI HLA-A KSR2 MYEOV PDGFRB RAD51B SMARCALI TSC1 ASCL1 CD99 DICER1 FANCI HORMAD1 LAG3 MYOD1 PELP1 RAD51D SMARCB1 TSC2 ASPSCR1 CDC73 DIS3L2 FANCM HORMAD2 LATS1 NAB2 PHF1 RAD51D SMARCB1 TSHR ATM CDH1 DLEU1 FAS HPS1 LCK NAMPT PHF6 RAD54B SMC TSK3 ATR CDH17 DLL3 FASLG HRAS LIG1 NBN PHLPP1 RAD54L SOCS1 TYR ATR CDK1 DNMT3A FBXW7 HSP90B1 LMT1 NBN PHLPP1 RAD54L SOCS1 TYR ATR CDK1 DNT1L FGF1 HSP90B1 LZTR1 NBN PHLPP1 RAD54L SOCS1 TYR ATR CDK12 DUX4 FGF2 HSP90B1 LZTR1 <	ARHGAP6	CD5	DDIT3	FANCF	HEY1	KMT2D	MYCT1	PDGFB	RAD51	SMAD4	TRAP1
ASCL1 CD99 DICER1 FANCL HORMADI LAG3 MYODI PELP1 RAD51C SMARCBI TSC2 ASPSCR1 CDC73 DIS3L2 FANCM HORMAD2 LATSI NAB2 PHF1 RAD51D SMARCBI TSHR ATM CDH1 DLEUI FASLG HRAS LIG1 NBN PHLPP1 RAD54B SMO TSSK3 ATR CDH17 DLL3 FASLG HRAS LIG1 NBN PHLPP1 RAD54L SOCS1 TYR AURKA CDK1 DNMT3A FBXW7 HSP90AB1 LET NBN PHLPP1 RAD54L SOCS1 TYR AURKA CDK12 DOT1L FGF1 HSP90AB1 LEP NDRG1 PHX3C2 RAP1B SPTA1 USP10 AURKC CDK2 DUX4 FGF2 HSP90B1 LZTR1 NF1 PHX3C2 RAP1B SPTA1 USP11 AVIRCA EGF1 FGF2 HSP90B1 LZTR1 NF1	ARHGEF12	CD70	DDR1	FANCG	HGF	KRAS	MYD88	PDGFRA	RAD51AP1	SMARCA4	TRIM37
ASPSCR1 CDC73 DIS3L2 FANCM HORMAD2 LATS1 NAB2 PHF1 RAD51D SMARCE1 TSHR ATM CDH1 DLEU1 FAS HPS1 LCK NAMPT PHF6 RAD54B SMO TSSK3 ATR CDH17 DLL3 FASLG HRAS LIG1 NBN PHLPP1 RAD54L SOCS1 TYR ATRX CDK1 DNMT3A FBXW7 HSP90AB1 LMTK3 NCOA2 PHOX2B RAF1 SOX10 UBEZN AURKA CDK12 DOT1L FGF1 HSP90AB1 LPP NDRG1 PIK3C2G RAP1B SPTA1 USP11 AURKA CDK4 EGF FGF2 HSP90AB1 LZPP NDRG1 PIK3C2G RAP1B SPTA1 USP11 AURKC CDK4 EGF FGF2 HSP90B1 LZTR1 NF1 PIK3C2G RAP1B SPTA1 USP11 AVEGFB AXL CDK4 EGF FGF2 ID2 <t< td=""><td>ARID1A</td><td>CD79B</td><td></td><td>FANCI</td><td>HLA-A</td><td>KSR2</td><td>MYEOV</td><td>PDGFRB</td><td>RAD51B</td><td>SMARCAL1</td><td>TSC1</td></t<>	ARID1A	CD79B		FANCI	HLA-A	KSR2	MYEOV	PDGFRB	RAD51B	SMARCAL1	TSC1
ATM CDH1 DLEU1 FAS HPS1 LCK NAMPT PHF6 RAD54B SMO TSSK3 ATR CDH17 DL13 FASLG HRAS LIG1 NBN PHLPP1 RAD54L SOC51 TYR ATRX CDK1 DNMT3A FBXW7 HSP90AB1 LPP NDRG1 PHX2E RAP1B SPTA1 USP1 AURKA CDK12 DOT1L FGF2 HSP90AB1 LPP NDRG1 PIK3C2G RAP1B SPTA1 USP11 AURKA CDK2 DUX4 FGF2 HSP90AB1 LZTR1 NF1 PIK3CA RAF1 SOX10 UBE2N AXL CDK4 EGF FGF3 ICOS MAGEA3 NF2 PIK3CD RASA1 SRF2 VEGFA BZM CDK4 EGF FGF4 ID2 MALAT1 NFAB1C PIK3R2 RB1 SSRF1 VYL BAP1 CDK6 EGFR FGFR1 ID2 MAP2K1 NFKBIA	ASCL1	CD99	DICER1	FANCL	HORMAD1	LAG3	MYOD1	PELP1	RAD51C	SMARCB1	TSC2
ATR CDH17 DLL3 FASLG HRAS LIG1 NBN PHLPP1 RAD54L SOCS1 TYR ATRX CDK1 DNMT3A FBXW7 HSP90AB1 LMTK3 NCOA2 PHOX2B RAF1 SOX10 UBE2N AURKA CDK12 DOT1L FGF1 HSP90B1 LPP NDRG1 PIK3C2G RAP1B SPTA1 USP10 AURKC CDK2 DUX4 FGF2 HSP90B1 LZTR1 NF1 PIK3CA RARA SRC USP6 AXL CDK4 EGF FGF3 ICOS MAGEA3 NF2 PIK3CD RASA1 SRSF2 VEGFA B2M CDK5 EGFL7 FGF4 ID2 MALAT1 NFATC1 PIK3R1 RASA1 SRSF2 VEGFB BAP1 CDK6 EGFR FGFR1 ID3 MAML2 NFIB PIK3R2 RB1 SSRP1 VHL BARD1 CDK9 EGLN1 FGFR2 IDH1 MAP2K1 NFKBIB	ASPSCR1	CDC73		FANCM		LATS1	NAB2	PHF1	RAD51D	SMARCE1	TSHR
ATRX CDK1 DNMT3A FBXW7 HSP90AA1 LMTK3 NCOA2 PHOX2B RAF1 SOX10 UBE2N AURKA CDK12 DOT1L FGF1 HSP90AB1 LPP NDRG1 PIK3CG RAP1B SPTA1 USP11 AURKC CDK2 DUX4 FGF2 HSP90B1 LZTR1 NF1 PIK3CA RARA SRC USP6 AXL CDK4 EGF FGF3 ICOS MAGEA3 NF2 PIK3CD RASA1 SRSF2 VEGFA BZM CDK5 EGFL7 FGF4 ID2 MALAT1 NFATC1 PIK3CD RASA1 SRSF2 VEGFA BAP1 CDK6 EGFR FGF41 ID3 MAML21 NFIB PIK3RC RB1 SSRP1 VHL BARD1 CDK6 EGFR FGFR1 ID3 MAP2K1 NFKBIB PIK3RC RB1 SSRP1 VHL BARD1 CDK9 EGLN1 FGFR2 IDH1 MAP2K1 NFKBIB </td <td>ATM</td> <td>CDH1</td> <td>DLEU1</td> <td>FAS</td> <td>HPS1</td> <td>LCK</td> <td>NAMPT</td> <td>PHF6</td> <td>RAD54B</td> <td>SMO</td> <td>TSSK3</td>	ATM	CDH1	DLEU1	FAS	HPS1	LCK	NAMPT	PHF6	RAD54B	SMO	TSSK3
AURKA CDK12 DOT1L FGF1 HSP90AB1 LPP NDRG1 PIK3C2G RAP1B SPTA1 USP11 AURKC CDK2 DUX4 FGF2 HSP90B1 LZTR1 NF1 PIK3CA RARA SRC USP6 AXL CDK4 EGF FGF3 ICOS MAGEA3 NF2 PIK3CD RASA1 SRSF2 VEGFA B2M CDK5 EGFL7 FGF4 ID2 MALAT1 NFATC1 PIK3R1 RASA2 SS18 VEGFB BAP1 CDK6 EGFR FGFR1 ID3 MAML2 NFIB PIK3R2 RB1 SSRP1 VHL BAP1 CDK6 EGFR FGFR1 ID3 MAML2 NFIB PIK3R2 RB1 SSRP1 VHL BAPA1 CDK6 EGFR FGFR1 ID3 MAML2 NFIB PIK3R2 RB1 SSRP1 VHL BAPA1 CDKN1 EGLN1 FGFR2 ID4 MAP2K1 NFKBIA <td< td=""><td>ATR</td><td>CDH17</td><td>DLL3</td><td>FASLG</td><td>HRAS</td><td>LIG1</td><td>NBN</td><td>PHLPP1</td><td>RAD54L</td><td>SOCS1</td><td>TYR</td></td<>	ATR	CDH17	DLL3	FASLG	HRAS	LIG1	NBN	PHLPP1	RAD54L	SOCS1	TYR
AURKC CDK2 DUX4 FGF2 HSP90B1 LZTR1 NF1 PIK3CA RARA SRC USP6 AXL CDK4 EGF FGF3 ICOS MAGEA3 NF2 PIK3CD RASA1 SRSF2 VEGFA B2M CDK5 EGFL7 FGF4 ID2 MALAT1 NFATC1 PIK3CD RASA1 SRSF2 VEGFA BAP1 CDK6 EGFR FGFR1 ID3 MAML2 NFIB PIK3R1 RASA2 SS18 VEGFB BARD1 CDK6 EGFR FGFR1 ID3 MAML2 NFIB PIK3R2 RB1 SSTR1 VSIR BCL2 CDKN1A EGLN1 FGFR2 IDH1 MAP2K1 NFKBIA PIK3R5 RECQL SSTR1 VSIR BCL3 CDKN1B EHBP1 FGFR3 IDH2 MAP2K2 NFKBIA PIK3R5 RECQL SSTR1 VSIR BCL3 CDKN1C EP300 FH IDO1 MAP3K6 NOTCH2	ATRX	CDK1	DNMT3A	FBXW7	HSP90AA1	LMTK3	NCOA2	PHOX2B	RAF1	SOX10	UBE2N
AXL CDK4 EGF FGF3 ICOS MAGEA3 NF2 PIK3CD RASA1 SRSF2 VEGFA B2M CDK5 EGFL7 FGF4 ID2 MALAT1 NFATC1 PIK3R1 RASA2 SS18 VEGFB BAP1 CDK6 EGFR FGFR1 ID3 MAML2 NFIB PIK3R2 RB1 SSRP1 VHL BARD1 CDK9 EGLN1 FGFR2 IDH1 MAP2K1 NFKBIA PIK3R5 RECQL SSTR1 VSIR BCL2 CDKN1A EGLN2 FGFR3 IDH2 MAP2K2 NFKBIA PIK3R5 RECQL SSTR1 VSIR BCL2 CDKN1A EGLN2 FGFR3 IDH2 MAP2K2 NFKBIA PIK3R5 RECQL SSTR1 VSIR BCL2 CDKN1B EHBP1 FGFR4 IDO1 MAP3K1 NOTCH1 PIM2 RET SSTR3 WNK2 BCL6 CDKN1C EP300 FH IDO2 MAP3K6 NOTCH	AURKA	CDK12	DOT1L	FGF1	HSP90AB1	LPP	NDRG1	PIK3C2G	RAP1B	SPTA1	USP11
B2M CDK5 EGFL7 FGF4 ID2 MALAT1 NFATC1 PIK3R1 RASA2 SS18 VEGFB BAP1 CDK6 EGFR FGFR1 ID3 MAML2 NFIB PIK3R2 RB1 SSRP1 VHL BARD1 CDK9 EGLN1 FGFR2 IDH1 MAP2K1 NFKBIA PIK3R5 RECQL SSTR1 VSIR BCL2 CDKN1A EGLN2 FGFR3 IDH2 MAP2K2 NFKBIB PIK3R5 RECQL SSTR1 VSIR BCL3 CDKN1B EHBP1 FGFR4 IDO1 MAP3K6 NOTCH2 PIM2 RET SSTR3 WIF1 BCL3 CDKN1C EP300 FH IDO2 MAP3K6 NOTCH2 PLAG1 RHBDF2 SSTR4 WRN BCL6 CDKN1C EP300 FH IDO2 MAP3K6 NOTCH2 PLAG1 RHBDF2 SSTR4 WRN BCL6 CDKN1C EP300 FH IDO2 MAP3K6 NOTCH	AURKC	CDK2	DUX4	FGF2	HSP90B1	LZTR1	NF1	PIK3CA	RARA	SRC	USP6
BAP1 CDK6 EGFR FGFR1 ID3 MAML2 NFIB PIK3R2 RB1 SSRP1 VHL BARD1 CDK9 EGLN1 FGFR2 IDH1 MAP2K1 NFKBIA PIK3R5 RECQL SSTR1 VSIR BCL2 CDKN1A EGLN2 FGFR3 IDH2 MAP2K2 NFKBIE PIM1 RECQL SSTR1 VSIR BCL3 CDKN1B EHBP1 FGFR4 IDO1 MAP3K1 NOTCH1 PIM2 RET SSTR3 WNK2 BCL6 CDKN1C EP300 FH IDO2 MAP3K6 NOTCH2 PLAG1 RHBDF2 SSTR3 WNK2 BCL9 CDKN2A EPAS1 FLCN IGF1R MAX NR4A3 PLK1 RHBDF2 SSTR4 WRN BCL9 CDKN2B EPCAM FLI1 IKZF1 MCL1 NRAS PLK2 RHOA SSX1 WWT1 BCOR CDKN2B EPCAM FLI1 IKZF1 MCL1 NRAS	AXL	CDK4	EGF	FGF3		MAGEA3	NF2	PIK3CD	RASA1	SRSF2	VEGFA
BARD1 CDK9 EGLN1 FGFR2 IDH1 MAP2K1 NFKBIA PIK3R5 RECQL SSTR1 VSIR BCL2 CDKN1A EGLN2 FGFR3 IDH2 MAP2K2 NFKBIE PIM1 RECQL4 SSTR2 WIF1 BCL3 CDKN1B EHBP1 FGFR4 IDO1 MAP3K1 NOTCH1 PIM2 RET SSTR3 WNK2 BCL6 CDKN1C EP300 FH IDO2 MAP3K6 NOTCH2 PLAG1 RHBDF2 SSTR4 WRN BCL9 CDKN2A EPAS1 FLCN IGF1R MAX NR4A3 PLK1 RHBDF2 SSTR4 WRN BCQ CDKN2A EPAS1 FLCN IGF1R MAX NR4A3 PLK1 RHBDF2 SSTR4 WRN BCQ CDKN2B EPCAM FLI1 IKZF1 MCL1 NRAS PLK2 RHOA SSX1 WWTR1 BLM CDKN2C EPHA3 FLT1 IL21R MDH2 NRG2 <td>B2M</td> <td>CDK5</td> <td>EGFL7</td> <td>FGF4</td> <td>ID2</td> <td>MALAT1</td> <td>NFATC1</td> <td>PIK3R1</td> <td>RASA2</td> <td></td> <td>VEGFB</td>	B2M	CDK5	EGFL7	FGF4	ID2	MALAT1	NFATC1	PIK3R1	RASA2		VEGFB
BCL2 CDKN1A EGLN2 FGFR3 IDH2 MAP2K2 NFKBIE PIM1 RECQL4 SSTR2 WIF1 BCL3 CDKN1B EHBP1 FGFR4 IDO1 MAP3K1 NOTCH1 PIM2 RET SSTR3 WNK2 BCL6 CDKN1C EP300 FH IDO2 MAP3K6 NOTCH2 PLAG1 RHBDF2 SSTR4 WRN BCL9 CDKN2A EPAS1 FLCN IGF1R MAX NR4A3 PLK1 RHBDF2 SSTR4 WRN BCQ CDKN2A EPAS1 FLCN IGF1R MAX NR4A3 PLK1 RHBDF2 SSTR4 WRN BCQ CDKN2B EPCAM FLI1 IKZF1 MCL1 NRAS PLK2 RHOA SSX1 WWTR1 BLM CDKN2C EPHA3 FLT1 IL21R MDH2 NRG1 PLK3 RICTOR SSX2 XAB2 BMP1A CDKN2D EPHA5 FLT3 IL6 MDM2 NRG2		CDK6	EGFR			MAML2	NFIB	PIK3R2	RB1	SSRP1	VHL
BCL3 CDKN1B EHBP1 FGFR4 IDO1 MAP3K1 NOTCH1 PIM2 RET SSTR3 WNK2 BCL6 CDKN1C EP300 FH IDO2 MAP3K6 NOTCH2 PLAG1 RHBDF2 SSTR4 WRN BCL9 CDKN2A EPAS1 FLCN IGF1R MAX NR4A3 PLK1 RHBB SSTR5 WT1 BCOR CDKN2B EPCAM FLI1 IKZF1 MCL1 NRAS PLK2 RHOA SSX1 WWTR1 BLM CDKN2C EPHA3 FLT1 IL21R MDH2 NRG1 PLK3 RICTOR SSX2 XAB2 BMPR1A CDKN2D EPHA5 FLT3 IL6 MDM2 NRG2 PMEL RINT1 STAT3 XPA BRAF CEBPA EPHB2 FLT4 IL6R MDM4 NRG3 PMS1 RIT1 STAT5B XPC BRCA1 CEP57 ERBB2 FOLH1 IL6ST MED12 NRG4 <t< td=""><td>BARD1</td><td></td><td></td><td>FGFR2</td><td></td><td>MAP2K1</td><td>NFKBIA</td><td>PIK3R5</td><td>RECQL</td><td>SSTR1</td><td>VSIR</td></t<>	BARD1			FGFR2		MAP2K1	NFKBIA	PIK3R5	RECQL	SSTR1	VSIR
BCL6 CDKN1C EP300 FH IDO2 MAP3K6 NOTCH2 PLAG1 RHBDF2 SSTR4 WRN BCL9 CDKN2A EPAS1 FLCN IGF1R MAX NR4A3 PLK1 RHBDF2 SSTR4 WRN BCOR CDKN2B EPCAM FLI1 IKZF1 MCL1 NRAS PLK2 RHOA SSX1 WWTR1 BLM CDKN2C EPHA3 FLT1 IL21R MDH2 NRG1 PLK3 RICTOR SSX2 XAB2 BMPR1A CDKN2D EPHA5 FLT3 IL6 MDM2 NRG2 PMEL RINT1 STAT3 XPA BRAF CEBPA EPHB2 FLT4 IL6R MDM4 NRG3 PMS1 RIT1 STAT5B XPC BRCA1 CEP57 ERBB2 FOLH1 IL6ST MED12 NRG4 PMS2 RNF2 STAT6 XPO1 BRCA2 CHEK1 ERBB3 FOXL2 IL7R MEN1 NSD1 <td< td=""><td></td><td>CDKN1A</td><td>EGLN2</td><td>FGFR3</td><td>IDH2</td><td>MAP2K2</td><td>NFKBIE</td><td>PIM1</td><td>RECQL4</td><td>SSTR2</td><td>WIF1</td></td<>		CDKN1A	EGLN2	FGFR3	IDH2	MAP2K2	NFKBIE	PIM1	RECQL4	SSTR2	WIF1
BCL9 CDKN2A EPAS1 FLCN IGF1R MAX NR4A3 PLK1 RHEB SSTR5 WT1 BCOR CDKN2B EPCAM FLI1 IKZF1 MCL1 NRAS PLK2 RHOA SSX1 WWTR1 BLM CDKN2C EPHA3 FLT1 IL21R MDH2 NRG1 PLK3 RICTOR SSX2 XAB2 BMPR1A CDKN2D EPHA5 FLT3 IL6 MDM2 NRG2 PMEL RINT1 STAT3 XPA BRAF CEBPA EPHB2 FLT4 IL6R MDM4 NRG3 PMS1 RIT1 STAT5 XPO BRCA1 CEP57 ERBB2 FOLH1 IL6ST MED12 NRG4 PMS2 RNF2 STAT6 XPO1 BRCA2 CHEK1 ERBB3 FOXL2 IL7R MEN1 NSD1 PNKP RNF43 STK11 XRCC1 BRD2 CHEK2 ERBB4 FOXO1 IRF4 MERTK NT5E POL	BCL3	CDKN1B	EHBP1	FGFR4	IDO1	MAP3K1	NOTCH1	PIM2	RET	SSTR3	WNK2
BCOR CDKN2B EPCAM FLI1 IKZF1 MCL1 NRAS PLK2 RHOA SSX1 WWTR1 BLM CDKN2C EPHA3 FLT1 IL21R MDH2 NRG1 PLK3 RICTOR SSX2 XAB2 BMPR1A CDKN2D EPHA5 FLT3 IL6 MDM2 NRG2 PMEL RINT1 STAT3 XPA BRAF CEBPA EPHB2 FLT4 IL6R MDM4 NRG3 PMS1 RIT1 STAT5B XPC BRCA1 CEP57 ERBB2 FOLH1 IL6ST MED12 NRG4 PMS2 RNF2 STAT6 XPO1 BRCA2 CHEK1 ERBB3 FOXL2 IL7R MEN1 NSD1 PNKP RNF43 STK11 XRCC1 BRD2 CHEK2 ERBB4 FOXD1 IRF4 MERTK NT5E POLD1 ROR1 STK36 XRCC2 BRD3 CIC ERCC1 FOXP1 IRS2 MET NTRK1 PO	BCL6			FH	IDO2	MAP3K6	NOTCH2	PLAG1	RHBDF2	SSTR4	WRN
BLM CDKN2C EPHA3 FLT1 IL21R MDH2 NRG1 PLK3 RICTOR SSX2 XAB2 BMPR1A CDKN2D EPHA5 FLT3 IL6 MDM2 NRG2 PMEL RINT1 STAT3 XPA BRAF CEBPA EPHB2 FLT4 IL6R MDM4 NRG3 PMS1 RIT1 STAT5B XPC BRCA1 CEP57 ERBB2 FOLH1 IL6ST MED12 NRG4 PMS2 RNF2 STAT6 XPO1 BRCA2 CHEK1 ERBB3 FOXL2 IL7R MEN1 NSD1 PNKP RNF43 STK11 XRCC1 BRD2 CHEK2 ERBB4 FOXD1 IRF4 MERTK NT5E POLD1 ROR1 STK36 XRCC2 BRD3 CIC ERCC1 FOXP1 IRS2 MET NTRK1 POLE ROS1 SUFU XRCC3 BRD4 CLDN18 ERCC2 FUS JAK1 MITF NTRK2 PPM	BCL9	CDKN2A	EPAS1	FLCN	IGF1R	MAX	NR4A3	PLK1	RHEB	SSTR5	WT1
BMPR1A CDKN2D EPHA5 FLT3 IL6 MDM2 NRG2 PMEL RINT1 STAT3 XPA BRAF CEBPA EPHB2 FLT4 IL6R MDM4 NRG3 PMS1 RIT1 STAT5B XPC BRCA1 CEP57 ERBB2 FOLH1 IL6ST MED12 NRG4 PMS2 RNF2 STAT6 XPO1 BRCA2 CHEK1 ERBB3 FOXL2 IL7R MEN1 NSD1 PNKP RNF43 STK11 XRCC1 BRD2 CHEK2 ERBB4 FOXD1 IRF4 MERTK NT5E POLD1 ROR1 STK36 XRCC2 BRD3 CIC ERCC1 FOXP1 IRS2 MET NTRK1 POLE ROS1 SUFU XRCC3 BRD4 CLDN18 ERCC2 FUS JAK1 MITF NTRK2 PPM1D RPA1 SUZ12 YAP1 BRIP1 CLDN6 ERCC3 FYN JAK2 MLH1 NTRK3 PRA	BCOR	CDKN2B	EPCAM	FLI1	IKZF1	MCL1	NRAS	PLK2	RHOA	SSX1	WWTR1
BRAF CEBPA EPHB2 FLT4 IL6R MDM4 NRG3 PMS1 RIT1 STAT5B XPC BRCA1 CEP57 ERBB2 FOLH1 IL6ST MED12 NRG4 PMS2 RNF2 STAT6 XPO1 BRCA2 CHEK1 ERBB3 FOXL2 IL7R MEN1 NSD1 PNKP RNF43 STK11 XRCC1 BRD2 CHEK2 ERBB4 FOXO1 IRF4 MERTK NT5E POLD1 ROR1 STK36 XRCC2 BRD3 CIC ERCC1 FOXP1 IRS2 MET NTRK1 POLE ROS1 SUFU XRCC3 BRD4 CLDN18 ERCC2 FUS JAK1 MITF NTRK2 PPM1D RPA1 SUZ12 YAP1 BRIP1 CLDN6 ERCC3 FYN JAK2 MLH1 NTRK3 PRAME RPTOR SYK YWHAE BTK CREBBP ERCC4 GAK JAK3 MLH3 NUDT1 PRF1	BLM	CDKN2C	EPHA3	FLT1	IL21R	MDH2	NRG1	PLK3	RICTOR	SSX2	XAB2
BRCA1 CEP57 ERBB2 FOLH1 IL6ST MED12 NRG4 PMS2 RNF2 STAT6 XPO1 BRCA2 CHEK1 ERBB3 FOXL2 IL7R MEN1 NSD1 PNKP RNF43 STK11 XRCC1 BRD2 CHEK2 ERBB4 FOXD1 IRF4 MERTK NT5E POLD1 ROR1 STK36 XRCC2 BRD3 CIC ERCC1 FOXP1 IRS2 MET NTRK1 POLE ROS1 SUFU XRCC3 BRD4 CLDN18 ERCC2 FUS JAK1 MITF NTRK2 PPM1D RPA1 SUZ12 YAP1 BRIP1 CLDN6 ERCC3 FYN JAK2 MLH1 NTRK3 PRAME RPTOR SYK YWHAE BTK CREBBP ERCC4 GAK JAK3 MLH3 NUDT1 PRF1 RRAS2 TACSTD2 ZNF217	BMPR1A	CDKN2D	EPHA5	FLT3	IL6	MDM2	NRG2	PMEL	RINT1	STAT3	XPA
BRCA2 CHEK1 ERBB3 FOXL2 IL7R MEN1 NSD1 PNKP RNF43 STK11 XRCC1 BRD2 CHEK2 ERBB4 FOXO1 IRF4 MERTK NT5E POLD1 ROR1 STK36 XRCC2 BRD3 CIC ERCC1 FOXP1 IRS2 MET NTRK1 POLE ROS1 SUFU XRCC3 BRD4 CLDN18 ERCC2 FUS JAK1 MITF NTRK2 PPM1D RPA1 SUZ12 YAP1 BRIP1 CLDN6 ERCC3 FYN JAK2 MLH1 NTRK3 PRAME RPTOR SYK YWHAE BTK CREBBP ERCC4 GAK JAK3 MLH3 NUDT1 PRF1 RRAS2 TACSTD2 ZNF217	BRAF	CEBPA	EPHB2	FLT4	IL6R	MDM4	NRG3	PMS1	RIT1	STAT5B	XPC
BRD2 CHEK2 ERBB4 FOXO1 IRF4 MERTK NT5E POLD1 ROR1 STK36 XRCC2 BRD3 CIC ERCC1 FOXP1 IRS2 MET NTRK1 POLE ROS1 SUFU XRCC3 BRD4 CLDN18 ERCC2 FUS JAK1 MITF NTRK2 PPM1D RPA1 SUZ12 YAP1 BRIP1 CLDN6 ERCC3 FYN JAK2 MLH1 NTRK3 PRAME RPTOR SYK YWHAE BTK CREBBP ERCC4 GAK JAK3 MLH3 NUDT1 PRF1 RRAS2 TACSTD2 ZNF217	BRCA1	CEP57	ERBB2	FOLH1	IL6ST	MED12	NRG4	PMS2	RNF2	STAT6	XPO1
BRD3 CIC ERCC1 FOXP1 IRS2 MET NTRK1 POLE ROS1 SUFU XRCC3 BRD4 CLDN18 ERCC2 FUS JAK1 MITF NTRK2 PPM1D RPA1 SUZ12 YAP1 BRIP1 CLDN6 ERCC3 FYN JAK2 MLH1 NTRK3 PRAME RPTOR SYK YWHAE BTK CREBBP ERCC4 GAK JAK3 MLH3 NUDT1 PRF1 RRAS2 TACSTD2 ZNF217	BRCA2	CHEK1	ERBB3			MEN1	NSD1	PNKP	RNF43	STK11	XRCC1
BRD4 CLDN18 ERCC2 FUS JAK1 MITF NTRK2 PPM1D RPA1 SUZ12 YAP1 BRIP1 CLDN6 ERCC3 FYN JAK2 MLH1 NTRK3 PRAME RPTOR SYK YWHAE BTK CREBBP ERCC4 GAK JAK3 MLH3 NUDT1 PRF1 RRAS2 TACSTD2 ZNF217			ERBB4			MERTK	NT5E			STK36	
BRIP1 CLDN6 ERCC3 FYN JAK2 MLH1 NTRK3 PRAME RPTOR SYK YWHAE BTK CREBBP ERCC4 GAK JAK3 MLH3 NUDT1 PRF1 RRAS2 TACSTD2 ZNF217		CIC	ERCC1			MET	NTRK1	POLE		SUFU	
BTK CREBBP ERCC4 GAK JAK3 MLH3 NUDT1 PRF1 RRAS2 TACSTD2 ZNF217		CLDN18				MITF		PPM1D			YAP1
	BRIP1	CLDN6	ERCC3	FYN			NTRK3	PRAME	RPTOR		YWHAE
BUB1B CREBRF ERCC5 GAS6 JAZF1 MLLT1 NUTM1 PRKACA RSPO2 TEAD1							NUDT1	PRF1		TACSTD2	ZNF217
	BUB1B	CREBRF	ERCC5	GAS6	JAZF1	MLLT1	NUTM1	PRKACA	RSPO2	TEAD1	