A) Gene Abnormality

Target Symbol	Gene Abnormality
ABL1/2	ABL1/2 gene fusions (BCR-ABL1, etc.)
ACVR1	ACVR1
ALK	ALK and ALK gene fusions
ASCL1	ASCL1 gene
BRAF	BRAF
BRD3-NUTM1	BRD3-NUTM1
BRD4-NUTM1	BRD4-NUTM1
CCND1,2	CCND1,2
CDK12	EWSR1-FLI1
c-KIT or KIT	c-KIT or KIT
CSF1R	CSF1R gene fusions
CTNNB1 (β-catenin)	CTNNB1
DDX3X	DDX3X
DOT1L	MLL gene fusions
EGFR	EGFR
ERK	BRAF, MAP2K1
ETS gene fusions	ETS fusions (ERG, FLI1, ETV1)

EWSR1-FLI1	EWSR1-FLI1
EZH2	SMARCB1, SMARCA4
FGFR	FGFR and FGFR gene fusions
FLT3	FLK2, STK1, CD135
Gamma secretase	NOTCH1 and FBXW7
GFI1	GFI1
GFI1B	GFI1B
Histone 3 G34R/V	Histone 3 G34R/V
Histone 3 K27M	Histone 3 K27M
IDH1 and IHD2	IDH1 and IDH2
JAK1, 2, and 3	JAK1, 2, and 3
LIN28B	LIN28B
MDM2	MDM2, TP53
MEK	BRAF and BRAF gene fusions, MAP2K1, NF1
Menin	MLL gene fusions
MET	MET

MLL	MLL gene fusions (MLL-AF4/AF9/AF10/ENL/ELL/AF1p/AFX/FKHRL1/SEPT6/GAS7/EEN/CBP/PTD)
mTOR	TSC1, TSC2
MYC	MYC translocations and amplification
MYCN	MYCN amplification
Neoantigens	MSH2, MLH1, MSH6, PMS2 POLE, and POLD1
NFkappaB	RELA fusion
NOTCH1	NOTCH1, FBXW7
NSD3-NUTM1	NSD3-NUTM1
NT5C2	NT5C2
NTRK	NTRK gene fusions
ODC1	MYC target gene
PARP	BRCA1/2, PALB2, ATM, BRIP1, CHEK2, RAD51, etc.
PAX-FOXO1	PAX-FOXO1
PDGFRA/B	PDGFRA/B gene fusions
PI3Kα	PIK3CA

PPM1D (WIP1)	PPM1D (WIP1)
RAS	RAS
RET	RET
SH2B3	SH2B3
SHP2	SHP2
Smoothened	PATCH1, SMO
STAT2,3	STAT2,3
SYT-SSX	SYT-SSX
TERT	TERT
TORC1/2 as distinct from mTOR	TORC1/2
TrkB	TrkB
TP53	TP53
TYK2	TYK2
ZNF532-NUTM1	ZNF532-NUTM1

B) Cell Lineage

Target Symbol			
AKR1C3	CD70	GPNMB	PTEN
BCOR	CD79b	ERBB2 (HER2/Neu)	SYK
BTK	CD123/IL3RA	IL6	WT1
CD7	CD276 (B7-H3)	IL13RA2	YAP1
CD19	Cereblon CBL (E3 Ubiquitine protein ligase)	LRRC15	
CD20	DLL3	MAGE-A3	
CD22	DLK1	MSLN (mesothelin)	
CD30	EGFRvIII	NR5A1 (Steroidogenic factor-1)	
CD33	EPHA2	NY-ESO-1	
CD37	GD2	Olig2	
CD38	GPC2	PIK3CD (PI3 kinase delta)	
CD56	GPC3	PRAME	

C) Tumor Microenvironment and immunotherapy

Target Symbol	
B7H3	OX40
CD40	PD-1/PD-L1
CD47	RELA
CD52	RIG-I
CXCR4	STEAP1
CXCL10	STING
CTLA4	TIM3/TIM4
GM-CSF	VEGF
IDO1	VEGFR
IFN-gamma	
IL-2	
LAG3	

D) Others

Target Symbol			
AKT	CDK9	MCT1 (monocarboxylate transporter 1)	PRMT2
ATM	CK1	MEK	PRMT5
ATR	CK2 (casein kinase 2)	MIZ1	Proteasome
ATRX	CREBBP/EP300	MGMT	PTPN (protein tyrosine phosphatase)
AURKA (Aurora kinase A)	DNA (alkylators)	MLL5	RPA3
AURKB (Aurora kinase B)	DNA-PK	MYST3 (MYST histone acetyltransferase (monocytic leukemia)	SHP2
AXL	DNMT (DNA methyl transferase)	NAMPT	SMYD3
A1/BFL	FAK	NEDD8 activating enzyme (NAE)	Somatostatin Receptor
BAK	FOLR1 (folate receptor 1)	PARP	Survivin (BIRC5)
BAX	GSK-3	PDK-1 (3-phosphoinositide-dependent protein kinase 1)	SUZ12
BCL2 family members (Bcl-2, Bcl-XL, Mcl-1, A1/BFL, BAK, BAX)	HDAC	PI3Kdelta	SWI/SNF

BET bromodomain family	HIF1A	PIM1	TET2
BMPR	Hippo pathway (YAP, TAZ, TEADs)	PKA	TGF-beta
Brd1	Hsp90	PKC	Thymidylate synthase
Brd4	IAPs (inhibitor-of-apoptosis)	PLK1	Topoisomerase I/II
CDK4/6	IGFR-1	POL1	TRAIL
CHK1	KDM4A	PRDM1	Tubulin
CDK2	LSD1	PRDM8	XPO1 (Exportin)
CDK7	MCL1	PRDM10	WDR5
			WEE1

E) Automatic Waivers

Target Symbol
AR
ESR1
ESR2
GnRHR
PSA/PSCA/PSMA