

Supplementary Table 1: Altered genes' classification in signaling pathways

Pathway	Genes
Apoptosis	<i>BCL11B</i> <i>BCL7C</i> <i>CASP8</i> <i>ING1</i> <i>SAMD9</i>
Cell cycle	<i>CDKN2A</i> <i>RB1</i>
Differentiation cell	<i>FAT1</i> <i>FAT2</i> <i>FAT4</i>
DNA repair	<i>ATR</i> <i>BARD1</i> <i>BRCA1</i> <i>BRCA2</i> <i>BRIP1</i> <i>CDK12</i> <i>FANCA</i> <i>FANCC</i> <i>MLH1</i> <i>MSH6</i> <i>MUTYH</i> <i>POLE</i> <i>RAD50</i> <i>RAD51C</i> <i>SLX4</i> <i>TP53BP1</i>
Development	<i>APC2</i> <i>AXIN2</i> <i>FBXW7</i> <i>NOTCH1</i> <i>NOTCH2</i> <i>NOTCH3</i> <i>PTCH1</i> <i>TCF7L2</i>
Epigenetics	<i>ARID1A</i> <i>ARID1B</i> <i>ARID2</i> <i>ASXL1</i> <i>ASXL2</i> <i>BCOR</i> <i>BRD9</i> <i>CHD1</i> <i>CHD3</i> <i>CREBBP</i> <i>DNMT3A</i> <i>EP300</i> <i>HIST1H3C</i> <i>KANSL1</i> <i>KMT2B</i> <i>KMT2C</i> <i>KMT2D</i> <i>NSD1</i> <i>SETD2</i>

	SMARCA4 SMARCB1 SMARCC1 SUZ12 TET2
Genome integrity	ATM TP53
Immunity	B2M BCL10 CIITA
Myc	MGA
Oxidative stress	KEAP1 NFE2L2
PI3K	PIK3CA PTEN
RTK/RAS	BRAF ERBB3 HRAS KRAS MAPK1 NRAS PDGFRA RASA1
Senescence	TERT
TGFβ	SMAD3 SMAD4 TGFB2
Transcription factor-regulator	CTCF GATA1 HNF1A NCOR1 PHOX2B RUNX1 ZFHX3 ZFP36L2
Other	AJUBA ALPK2 CHD6 CIC CUX1 DICER1 EPHA2 FBXO11 FUBP1 GNAQ GRIN2A LZTR1 MEN1 NCKAP1 PTPRB PXDNL SDHA SF3B1 SPOP SRCAP TBL1XR1 THSD7B

	<i>U2AF1</i> <i>ZRSR2</i>
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