

**Supplementary Table S1. Genes whose expression is anti-correlated with PLX4720 IC<sub>50</sub> in the CCLE dataset.**

Gene	Pearson correlation	Anti-correlation rank
MITF	-0.7838	1
RNF144A	-0.76041	2
MLANA	-0.74993	3
MXI1	-0.74011	4
CAPN3	-0.73785	5
RRAGD	-0.73391	6
GPM6B	-0.73376	7
PECR	-0.73144	8
MREG	-0.73105	9
C10orf108	-0.72985	10
ANKRD44	-0.728	11
GALNT3	-0.72114	12
GNPTAB	-0.72003	13
DIP2B	-0.71962	14
TESK2	-0.7189	15
PI15	-0.71342	16
WDR61	-0.71323	17
SLC25A33	-0.71294	18
QDPR	-0.71132	19
BAHCC1	-0.7054	20
CPN1	-0.70512	21
C14orf109	-0.69932	22
C17orf58	-0.69724	23
LGALS3	-0.69096	24
FGD4	-0.68849	25
PLEKHH1	-0.6872	26
TNFRSF14	-0.68241	27
FAM210A	-0.68208	28
RXRG	-0.67899	29
MAD2L1BP	-0.67836	30
HS1BP3	-0.67735	31
RAB38	-0.67563	32
FMN1	-0.67334	33
CITED1	-0.67046	34
PIR	-0.66633	35
DTWD2	-0.6663	36
TBC1D22A	-0.6655	37
ZNF704	-0.66431	38
TRIM63	-0.66027	39
DCT	-0.65823	40
PDZRN3	-0.65668	41
DDT	-0.65663	42
ST3GAL6	-0.65006	43
PRR5	-0.64959	44
ESRP1	-0.64921	45
AP1S2	-0.64918	46
CHCHD6	-0.64886	47
RAI1	-0.64704	48
KCNN2	-0.64672	49
PIK3CB	-0.64549	50
PLA1A	-0.64521	51
PROS1	-0.64258	52
PPFIA1	-0.64135	53
ZFYVE16	-0.64127	54
PMEL	-0.6409	55
SPSB1	-0.64052	56
LAMA1	-0.64028	57
MOAP1	-0.63884	58
TTYH2	-0.63777	59
LOC100653010	-0.63742	60
GRAMD4	-0.63352	61
STXBP1	-0.63344	62
TBC1D16	-0.6333	63
SLC45A2	-0.62943	64
D4S234E	-0.62808	65
LOC100506661	-0.62786	66
C11orf96	-0.62655	67
KIAA1598	-0.62583	68
USP54	-0.62419	69
RASSF3	-0.62408	70
EDNRB	-0.62387	71
TIMM50	-0.62239	72
SIRPA	-0.62106	73
ANKRD54	-0.62014	74
KIAA0226L	-0.62014	75

**Supplementary Table S2. Pre-treatment immunohistochemistry results and progression-free survival following dabrafenib + trametinib therapy.**

sample	PFS (mo)	MITF staining		AXL staining	
		distribution	intensity	distribution	intensity
R4	5	diffuse	2	negative	0
R9	12	diffuse	1	negative	0
6A	21	diffuse	3	negative	0
19A	17	diffuse	2	negative	0
9A	7	negative	0	diffuse	2
R8	2	negative	0	focal	2
R10	3	negative	0	focal	2
11A	10	negative	0	focal	2
13A	9	negative	0	diffuse	2
22A	3	negative	0	focal	2
25A	3	negative	0	focal	2
12A	12	negative	0	diffuse	2