**Supplemental Figure 1**

**Progressive Disease**

- ABL1
- CDK2
- FAT1
- KMT2D
- NCOA3
- RPS6KB1
- TRAF7
- ABL2
- CHD4
- FGF10
- LAT51
- NOTCH2
- SDHC
- WAS
- AKT3
- CHEK2
- FGF19
- LAT52
- NRAS
- SHQ1
- YES1
- ALK
- CREBBP
- FLT4
- LZTR1
- NTRK1
- SLIT2
- APC
- CRKL
- GATA2
- MAF
- NTRK2
- SMARCD1
- AR
- CSF1R
- GATA4
- MAP2K2
- PHOX2B
- SNCAIP
- AURKA
- DDB2
- ICOSLG
- MCL1
- PIK3CA
- SOX17
- AXIN1
- DDR2
- IDH1
- MDC1
- PIM1
- SPOP
- BIRC2
- DNMT3A
- IGF1R
- MD2
- PLEN
- TEC
- C11orf30
- ERBB3
- INPP4A
- MEN1
- RAS1C
- TET1
- CARD11
- EXT1
- INSR
- MERTK
- RANBP2
- TLR4
- CBL
- FANCB
- KMT2C
- NBN
- RICTOR
- TPMRSS2

**Common**

- BAP1
- MTRR
- TERT
- BCOR
- NUP93
- TET2
- BCR
- PBRM1
- TLR8
- BRCA1
- PIK3CA
- TP53
- BRCA2
- POT1
- TP53BP1
- FANCM
- PRKDC
- TSC1
- GRIN2A
- PTPRS
- TSC2

**Disease Control**

- ACVR1B
- FAM175A
- JUN
- PIK3CG
- TAF1
- ALOX12B
- FAM46C
- KAT6A
- PIK3R3
- TBX3
- ARID1A
- FANCA
- KDR
- PLK2
- TNFAIP3
- ARID1B
- FANC
- KEL
- PTK2
- TOP1
- B2M
- FH
- MSH3
- PTPRT
- TOP2A
- BLM
- FOXL2
- NCO1
- RAD50
- TP63
- CD22
- FRS2
- NF2
- RAD51D
- WEE1
- DNMT3B
- GPR124
- NOTCH3
- RAD54B
- WHSC1
- EPHA3
- H3F3B
- NTRK3
- RECLQ4
- WISP3
- EPHB1
- HDAC6
- PIK3CG
- SF3B1
- WT1
- ERCC5
- HSD3B1
- PIK3CB
- SLX4
- XIAP
- EWSR1
- IRS2
- PIK3CD
- SMARCA4

**Supplemental Figure 1. Mutated genes identified in mRCC cohort.** All genes with identified mutations across the 34 mRCC patients within this cohort. Patients were stratified according to overall response into either the progressive disease (PD) and disease control (DC) groups. Commonly mutated genes between the two groups are listed in the green box. Genes found to be mutated in only the disease control (DC) group are listed in the yellow box and genes found to be mutated in only the progressive disease (PD) group are listed in the blue box.