

Supplementary Materials for

Genomic Correlates of Response to Immune Checkpoint Blockade in Microsatellite-Stable Solid Tumors

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Supplementary Tables 3, 6, & 8

Other Supplementary Materials for this manuscript include the following:

Supplementary Tables 1-2, 4-5, 7, 9-10

Supplementary Table 1. Sequencing metrics and inclusion/exclusion criteria for whole exome sequencing from N=314 clinically annotated patient tumors

Supplementary Table 2. Clinical outcomes and clinical covariates for N=249 patients

Supplementary Table 3. Clinical stratification of immunotherapy-treated patients from three published studies

Objective Response/Clinical Benefit	No response/No Clinical Benefit	Other	Source
CR/PR by RECIST	PD by RECIST	SD by RECIST	Hugo et al. 2016
CR/PR SD with PFS > 6 months	PD SD with PFS < 6 months	NA	Roh et al. 2017
CR/PR by RECIST SD with OS > 12 months	PD by RECIST SD with OS < 12 months	Long-term survival: PD with OS > 2 years	Van Allen et al. 2015

Supplementary Table 4. Oncogenes and tumor suppressors assessed for driver mutations

Supplementary Table 5. All mutations (somatic single nucleotide variants and small insertions and deletions) across N=249 tumors included in analysis

Supplementary Table 6. Mutational signatures and proposed etiologies (Alexandrov et al. *Nature* 2013).

Mutational signature	Proposed signature etiology
S1	Aging
S2	APOBEC
S3	Homologous repair defect
S4	Tobacco smoking
S5	Unknown
S6	DNA mismatch repair defect
S7	UV
S8	Unknown
S9	Polymerase η
S10	POLE mutation
S11	Alkylating
S12	Unknown
S13	APOBEC

S14	Unknown
S15	DNA mismatch repair defect
S16-S19	Unknown
S20	DNA mismatch repair defect
S21	Unknown
S22	Aristolochic acid
S23	Unknown
S24	Aflatoxin
S25	Unknown
S26	DNA mismatch repair defect
S27-S28	Unknown
S29	Tobacco chewing
S30	Unknown

Supplementary Table 7. Mutational signature activity across all tumors

Supplementary Table 8. Oncogenes and tumor suppressors assessed for amplifications or deletions

Gene

- CBL
- RAD50
- TGFBR2
- MSH6
- KMT2D
- PBRM1
- ARID2
- ASXL2
- CDH1
- EP300
- TP53
- SMAD2
- SMAD4
- FBXW7
- CDKN1A
- CDKN1B
- CDKN2A
- ASXL1
- BRIP1
- ERCC4
- RBM10

TSC1
TSC2
FOXA1
ARID1A
BAP1
FANCA
KMT2C
FAT1
ARID1B
PIK3R1
MLH1
KMT2A
KDM6A
VHL
PMS2
PPM1D
APC
MSH2
XRCC2
CREBBP
SETD2
CTCF
TET1
SMARCA4
ATM
SOX9
TET2
ATRX
CDK12
B2M
GATA3
CCND1
KEAP1
PTCH1
PTEN
BCOR
PRDM1
JAK1
STK11
NF1
PTPRD
BRCA1
BRCA2

NF2

BCL10

HNF1A

RASA1

RB1

CASP8

Supplementary Table 9. Copy number alterations across all tumors

Supplementary Table 10. Predicted HLA-restricted neoantigens across all tumors