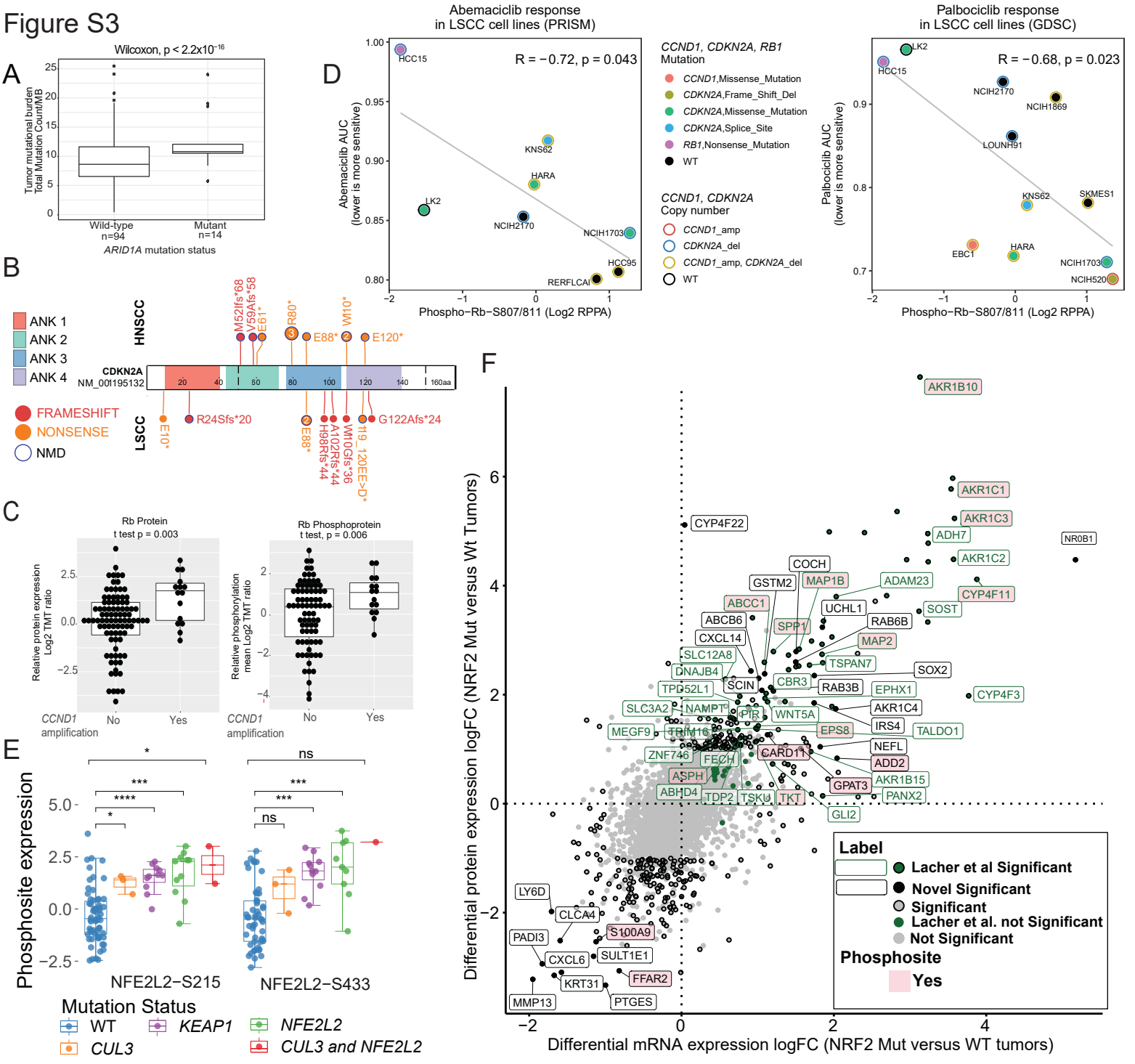
# Figure S3


A
Wilcoxon, p < 2.2x10^-16
Tumor mutational burden Total Mutation Count/MB
Wild-type n=94
Mutant n=14
ARID1A mutation status
B
ANK 1
ANK 2
ANK 3
ANK 4
HNSCC
CDKN2A NM_001195132
FRAMESHIFT
NONSENSE
NMD
LSCC
M52Ifs*68
V59Afs*58
E61*
R80*
E88*
W110*
E120*
E10*
R24Sfs*20
E88*
H98Rfs*44
A102Rfs*44
W110Gfs*36
I119_120EE>D*
G122Afs*24
C
Rb Protein
t test p = 0.003
Relative protein expression Log2 TMT ratio
CCND1 amplification
No
Yes
Rb Phosphoprotein
t test, p = 0.006
Relative phosphorylation mean Log2 TMT ratio
D
Abemaciclib response in LSCC cell lines (PRISM)
R = −0.72, p = 0.043
Abemaciclib AUC (lower is more sensitive)
Phospho−Rb−S807/811 (Log2 RPPA)
HCC15
KNS62
HARA
LK2
NCIH2170
NCIH1703
HCC95
RERFLCAI
CCND1, CDKN2A, RB1 Mutation
CCND1,Missense_Mutation
CDKN2A,Frame_Shift_Del
CDKN2A,Missense_Mutation
CDKN2A,Splice_Site
RB1,Nonsense_Mutation
WT
CCND1, CDKN2A Copy number
CCND1_amp
CDKN2A_del
CCND1_amp, CDKN2A_del
WT
Palbociclib response in LSCC cell lines (GDSC)
R = −0.68, p = 0.023
Palbociclib AUC (lower is more sensitive)
LK2
HCC15
NCIH2170
NCIH1869
LOUNH91
KNS62
SKMES1
EBC1
HARA
NCIH1703
NCIH520
E
Phosphosite expression
NFE2L2−S215
NFE2L2−S433
Mutation Status
WT
CUL3
KEAP1
NFE2L2
CUL3 and NFE2L2
F
Differential protein expression logFC (NRF2 Mut versus Wt Tumors)
Differential mRNA expression logFC (NRF2 Mut versus WT tumors)
AKR1B10
AKR1C1
AKR1C3
ADH7
AKR1C2
NR0B1
CYP4F22
COCH
GSTM2
MAP1B
ADAM23
CYP4F11
ABCC1
UCHL1
SOST
ABCB6
SPP1
RAB6B
CXCL14
MAP2
SLC12A8
TSPAN7
DNAJB4
SOX2
TPD52L1
SCIN
CBR3
RAB3B
EPHX1
CYP4F3
SLC3A2
NAMPT
PIR
WNT5A
AKR1C4
MEGF9
TRIM16
EPS8
IRS4
TALDO1
ZNF746
FECH
CARD11
NEFL
ADD2
ASPH
AKR1B15
ABHD4
TDP2
TSKU
TKT
GPAT3
PANX2
GLI2
LY6D
CLCA4
PADI3
S100A9
CXCL6
SULT1E1
KRT31
FFAR2
MMP13
PTGES
Label
Lacher et al Significant
Novel Significant
Significant
Lacher et al. not Significant
Not Significant
Phosphosite
Yes
G
Geneset Overlap
MSigDB Combined NRF2 Signaling
WIKIPathway NRF2 Signaling
Lacher et al. NRF2 Signaling (Human Tissues)
423
20
74
19
27
4
52
Upregulated Events
mRNA
Protein
Phospho
207
29
95
25
7
21
185
Downregulated Events
mRNA
Protein
Phospho
129
11
130
3
3
14
159
H
1: NRF2 Two Hits
2: NRF2 One Hit
3: NRF2 Wild-type
4: NAT
SQSTM1
NR0B1#
AKR1B10
CARD11
FFAR2
mRNA expression
Relative protein expression (log2 TMT ratio)
Relative phosphosite abundance (log2 TMT ratio)
S365sS366s
S215s
S886s
S296s
Characterized
Partially Characterized NRF2 Targets in LSCC
Novel NRF2 Targets in LSCC