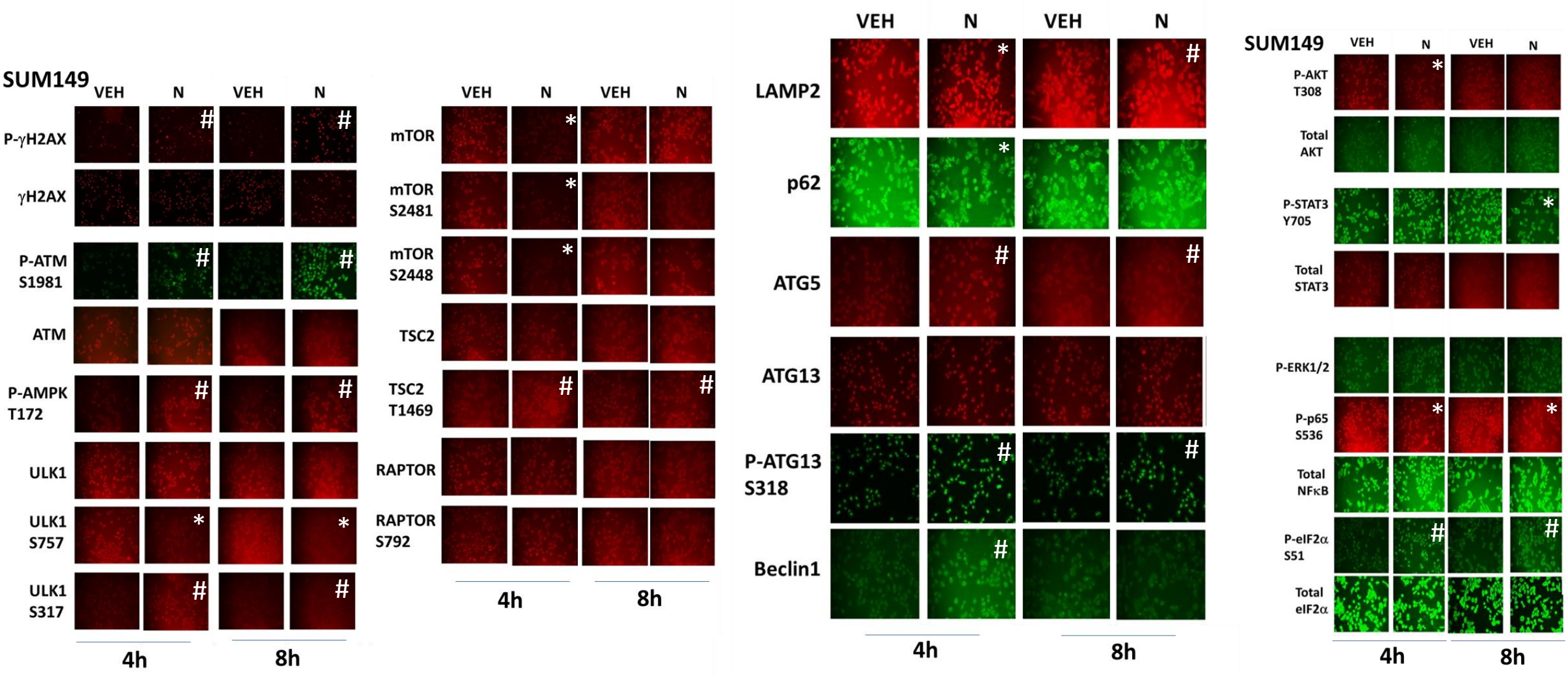
Figure S1. Niraparib activates an ATM-AMPK-ULK1-autophagy pathway in SUM149 TNBC cells. SUM149 cells were treated with vehicle control or niraparib (2 μM), for 4h and 8h. Cells were fixed in place and at least forty cells per condition were imaged in independent triplicate and the intensity ratio of phosphorylated protein levels to total protein expression plotted as a percentage of control treatment (n = 3 +/- SD). # $p < 0.05$ greater than vehicle control; * $p < 0.05$ less than vehicle control.

Figure S2. Knock down of ATM or AMPK prevents the dephosphorylation of AKT T308, p65 NFκB S536, ULK-1 S757, mTOR S2448 and mTOR S2481, and the phosphorylation of ULK-1 S317. A. and B. SUM149 mammary cancer cells were treated with vehicle control or with niraparib (2.0 μM), for 6h. Cells were fixed in place and at least forty cells per condition were imaged in independent triplicate and the intensity ratio of phosphorylated protein levels to total protein expression plotted as a percentage of control treatment (n = 3 +/- SD). # $p < 0.05$ greater than vehicle control; * $p < 0.05$ less than vehicle control; ** $p < 0.05$ less than vehicle control but greater than corresponding value in siSCR cells.

Figure S3. Niraparib and valproate interact to reduce PD-L1 and IDO-1 expression and enhance MHCA levels. A. Spiky and OVCAR3 cells were treated with vehicle control, niraparib (2 μM), valproate (250 μM) or the drugs in combination for 6h. Cells were fixed in place and at least forty cells per condition were imaged to determine the staining intensity for each protein (n = 3 +/- SD). # $p < 0.05$ greater than vehicle control; * $p < 0.05$ less than vehicle control. **B.** Cells from Panel A, were imaged at 60X magnification and the expression and localization of HMGB1 determined.

S1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VEH
N
VEH
N
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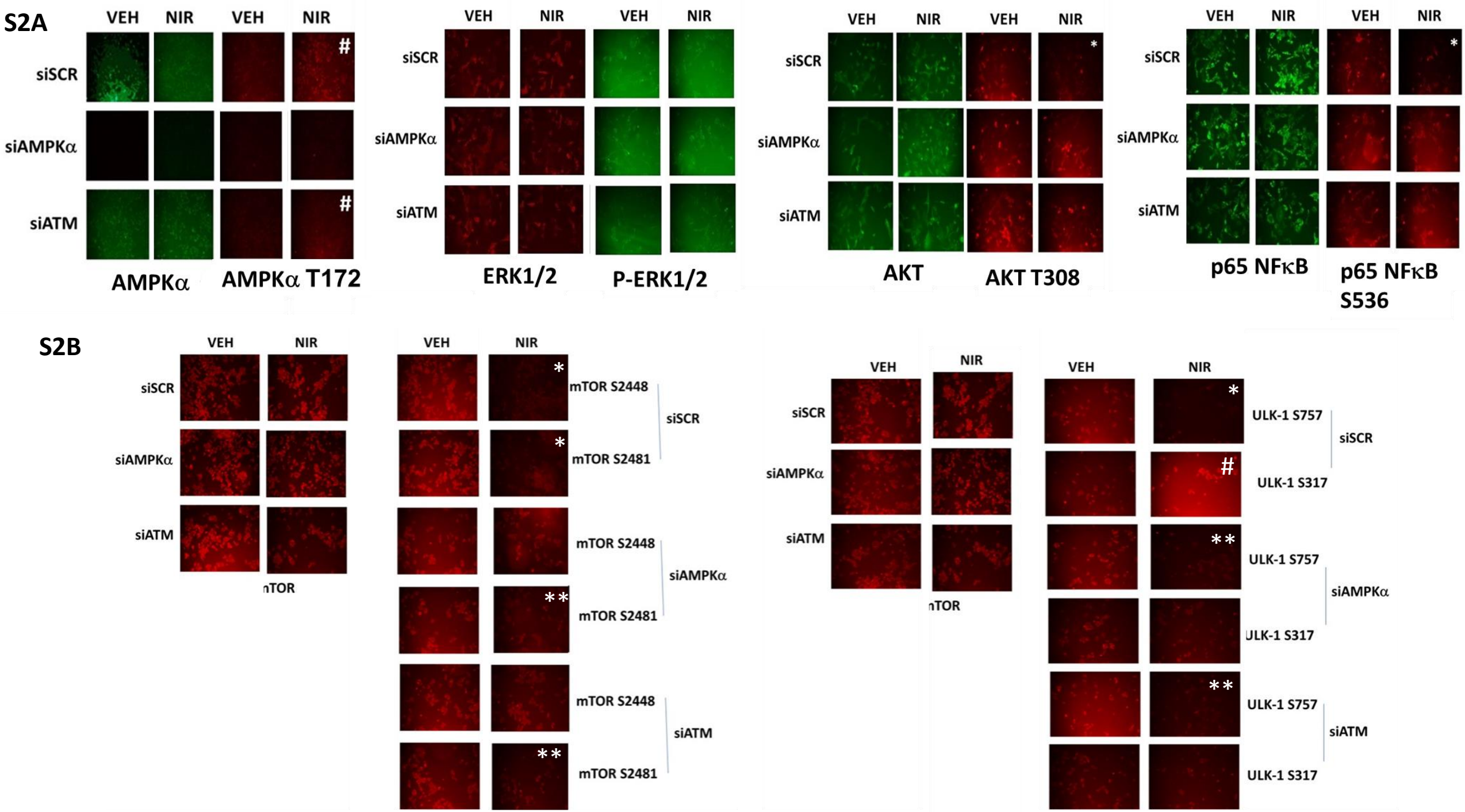
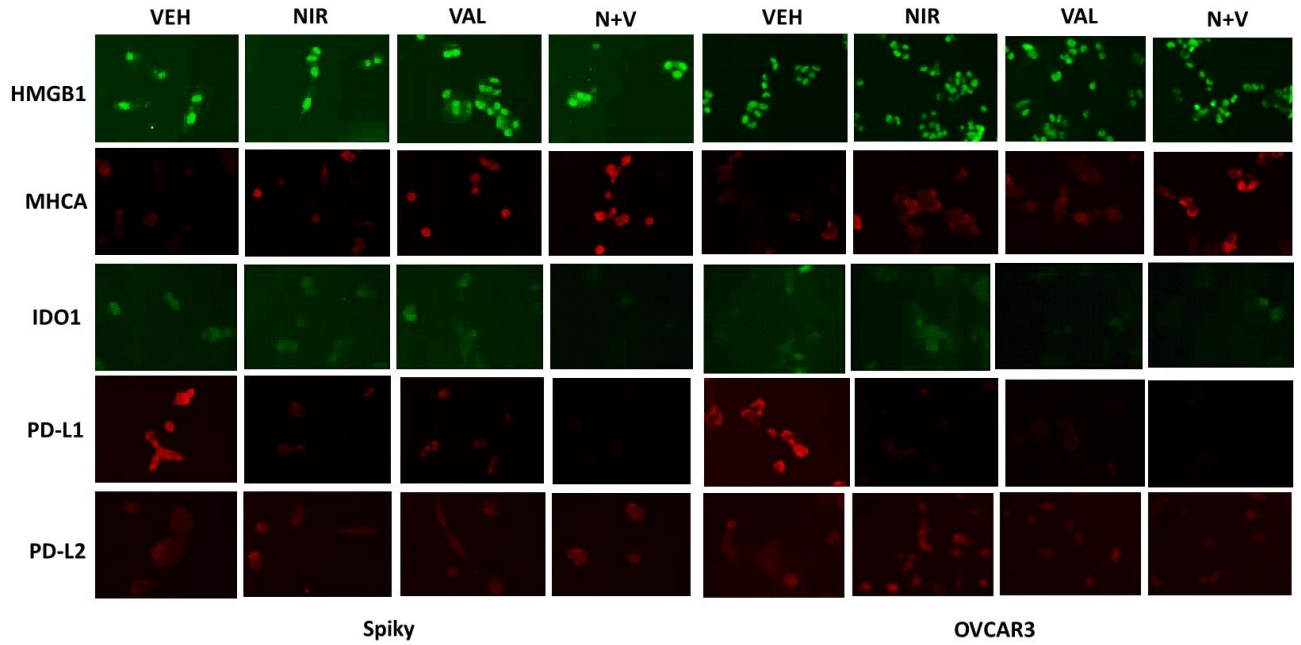
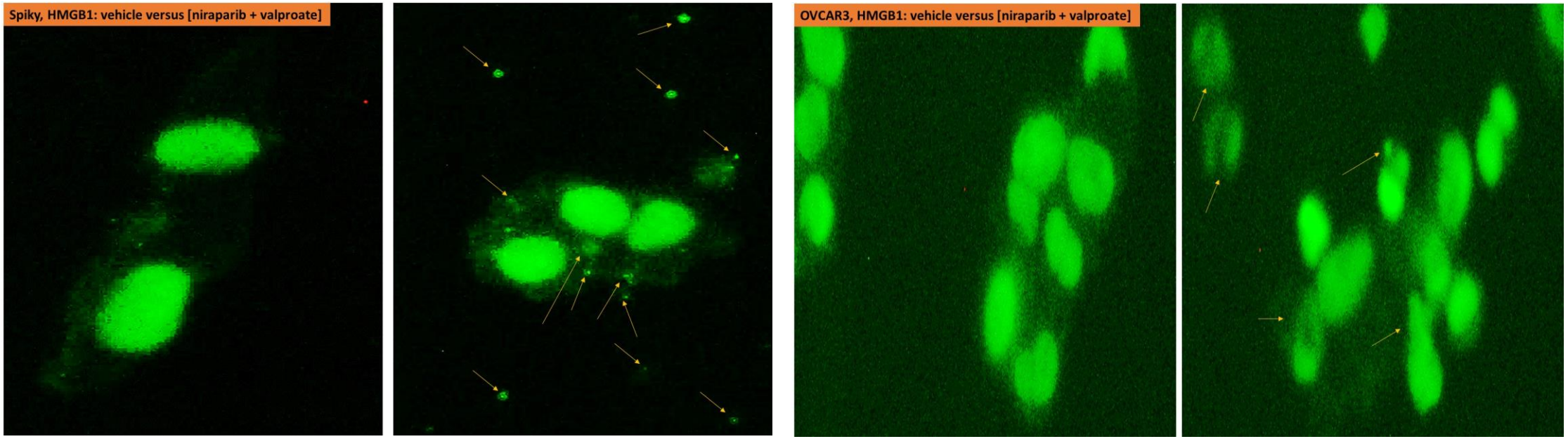
γH2AX
P-ATM S1981
ATM
P-AMPK T172
ULK1
ULK1 S757
ULK1 S317
mTOR
mTOR S2481
mTOR S2448
TSC2
TSC2 T1469
RAPTOR
RAPTOR S792
4h
8h
LAMP2
p62
ATG5
ATG13
P-ATG13 S318
Beclin1
SUM149
P-AKT T308
Total AKT
P-STAT3 Y705
Total STAT3
P-ERK1/2
P-p65 S536
Total NFκB
P-eIF2α S51
Total eIF2α


S2A
VEH
NIR
VEH
NIR
siSCR
siAMPKα
siATM
#
#
AMPKα
AMPKα T172
siSCR
siAMPKα
siATM
ERK1/2
P-ERK1/2
siSCR
siAMPKα
siATM
*
AKT
AKT T308
siSCR
siAMPKα
siATM
*
p65 NFκB
p65 NFκB S536
S2B
VEH
NIR
siSCR
siAMPKα
siATM
mTOR
*
*
**
**
mTOR S2448
mTOR S2481
mTOR S2448
mTOR S2481
mTOR S2448
mTOR S2481
siSCR
siAMPKα
siATM
VEH
NIR
siSCR
siAMPKα
siATM
mTOR
*
#
**
**
ULK-1 S757
ULK-1 S317
ULK-1 S757
ULK-1 S317
ULK-1 S757
ULK-1 S317
siSCR
siAMPKα
siATM

S3A


VEH
NIR
VAL
N+V
VEH
NIR
VAL
N+V
HMGB1
MHCA
IDO1
PD-L1
PD-L2
Spiky
OVCAR3

S3B


Spiky, HMGB1: vehicle versus [niraparib + valproate]
OVCAR3, HMGB1: vehicle versus [niraparib + valproate]