

**Supplementary Table 1. Selection of STK11-mutant LUAD cell lines from CCLE database**

Cell line	Lineage	Variant classification	cDNA change	Protein change	Allele frequency	Mutation zygosity
MORCPR	LUNG NSCLC	Nonsense Mutation	c.388G>T	p.E130*	1	Homo
NCIH23	LUNG NSCLC	Nonsense Mutation	c.996G>A	p.W332*	1	Homo
A549	LUNG NSCLC	Nonsense Mutation	c.109C>T	p.Q37*	0.99	Homo
NCIH838	LUNG NSCLC	Frame Shift Del	c.632delG	p.R211fs	0.99	Homo
NCIH1395	LUNG NSCLC	Frame Shift Del	c.165delG	p.L55fs	0.96	Homo
NCIH1755	LUNG NSCLC	Frame Shift Del	c.837delC	p.G279fs	0.94	Homo
NCIH1355	LUNG NSCLC	Frame Shift Del	c.142delA	p.K48fs	0.88	Homo
NCIH2122	LUNG NSCLC	Frame Shift Del	c.837delC	p.G279fs	0.88	Homo
HCC44	LUNG NSCLC	Frame Shift Ins	c.152_153insC	p.M51fs	0.81	Homo

A total of 9 cell lines harbored homozygous STK11 loss-of-function mutations.

\*chain termination, fs: Frame shift.