

## Description of Additional Supplementary Files

File Name: Supplementary Data 1

Description: RLE-normalized (DESeq2) counts for *Lkb1*<sup>XTR</sup> RNA-seq experiment, including *Trp53* wild-type and deficient tumors.

File Name: Supplementary Data 2

Description: Differential expression analysis results for the comparison of *Lkb1*-restored tumors to *KT* tumors. *P* values were obtained using the Wald test and corrected for multiple hypothesis testing using the Benjamini-Hochberg procedure.

File Name: Supplementary Data 3

Description: Differential expression analysis results for the comparison of *Lkb1*-restored tumors to non-restored tumors. *P* values were obtained using the Wald test and corrected for multiple hypothesis testing using the Benjamini-Hochberg procedure.

File Name: Supplementary Data 4

Description: Differential expression analysis results for the comparison of non-restored tumors to *KT* tumors. *P* values were obtained using the Wald test and corrected for multiple hypothesis testing using the Benjamini-Hochberg procedure.

File Name: Supplementary Data 5

Description: Differential expression analysis results for the comparison of *Lkb1*-restored tumors to non-restored tumors in the absence of *Trp53*. *P* values were obtained using the Wald test and corrected for multiple hypothesis testing using the Benjamini-Hochberg procedure.

File Name: Supplementary Data 6

Description: Total protein intensities for *Lkb1*<sup>XTR</sup> shotgun mass spectrometry experiment.

File Name: Supplementary Data 7

Description: Differential abundance analysis results for the comparison of *Lkb1*-restored tumors to non-restored tumors by shotgun mass spectrometry. *P* values were obtained using the moderated t-test and corrected for multiple hypothesis testing using the Benjamini-Hochberg

File Name: Supplementary Data 8

Description: RLE-normalized (DESeq2) counts for *C/ebps* and *Lkb1* knockout RNA-seq experiment.

File Name: Supplementary Data 9

Description: Differential expression analysis results for the comparison of sg*Cebps* tumors to sg*Inert* tumors. *P* values were obtained using the Wald test and corrected for multiple hypothesis testing using the Benjamini-Hochberg procedure.

File Name: Supplementary Data 10

Description: Differential expression analysis results for the comparison of *sgLkb1* tumors to *sgInert* tumors. *P* values were obtained using the Wald test and corrected for multiple hypothesis testing using the Benjamini-Hochberg procedure.

File Name: Supplementary Data 11

Description: Differential expression analysis results for the comparison of *sgCebps* tumors to *sgLkb1* tumors. *P* values were obtained using the Wald test and corrected for multiple hypothesis testing using the Benjamini-Hochberg procedure.