

1 **Supplementary Figure Legends**

2 **Figure S1.** HELLS KD analysis.

3 A. qRT-PCR analysis of E2F1 and MLL1 (used as positive controls of HELLS knockdown)  
4 in TLBR-2 HELLS<sup>KD</sup> after 48 hours of doxycycline (DOX) treatment. The values represent  
5 mean  $\pm$  SEM (n = 3). Two-tailed t-test. \*\*p <0.01.

6 B. Western blot analysis of HELLS expression in MAC2A HELLS<sup>KD</sup> after 48 hours of  
7 doxycycline induction.

8 C. qRT-PCR analysis of HELLS and its targets E2F1 and MLL1 in MAC2A HELLS<sup>KD</sup> after  
9 48 hours of doxycycline (DOX) treatment.

10 D. Western blot analysis of  $\beta$ -tubulin in TLBR-2 HELLS<sup>KD</sup> and MAC2A HELLS<sup>KD</sup> after 48  
11 hours of doxycycline induction.

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13 **Figure S2.** BlackMamba KD analysis.

14 A. qRT-PCR analysis of a panel of target genes in TLBR-2 plain after 48 hours of  
15 doxycycline treatment (DOX).

16 B-C. qRT-PCR analysis of BlackMamba and HELLS expression, used as positive control,  
17 in TLBR-2 HELLS<sup>KD</sup> and MAC2A HELLS<sup>KD</sup> after 6 days of doxycycline treatment. The  
18 values represent mean  $\pm$  SEM (n = 3). Two-tailed t-test. \*\*p <0.01.

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20 **Figure S3.** YY1 analysis.

21 A. qRT-PCR analysis of YY1 expression in TLBR-2 HELLS<sup>KD</sup> and MAC2A HELLS<sup>KD</sup> after  
22 48 hours of doxycycline induction (DOX). The values represent mean  $\pm$  SEM (n = 3). Two-  
23 tailed t-test. n.s.= not significant.

24 B-C. qRT-PCR analysis of YY1 targets IL-6, KLF4 and MYC in TLBR-2 and MAC2A  
25 nucleofected with specific YY1 siRNA (36 hours post nucleofection).

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27 **Supplementary Table Legends**

28 **Supplemental Table 1**

29 List of shRNAs sequences used in this paper

30 **Supplemental Table 2**

31 List of primers used for qRT-PCR

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33 **Supplemental Table 1**

shRNA HELLS	GAACAAAGAAGTATCCATATT
shRNA BlackMamba	AGACAGATCTTGATAGAAATT

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36 **Supplemental Table 2**

qRTPCR	FORWARD	REVERSE
<b>BlackMamba</b>	TTGGAACTACTGCCGGTGTC	GTGCGAGGCTGTTTACCTCT
<b>CHMP2A</b>	ATGGACCTATTGTTCCGGGCG	TCTCTAGTTTCTGTGCTCGC
<b>HELLS</b>	AGCGGTTGTGAGGAGTTAGC	CATGCCTGGACACTCACCC
<b>PAK2</b>	TGAGCAGAGCAAACGCAGTA	AGGGCCATAAGCTTCCGTG
<b>RHOA</b>	GCCCCTCATCCTTCCAGAAC	GAGATCCGACTGCGTTCCAA
<b>RHOA</b>	GGACTTAAGCGTCTGGCTC	AGTGCCACCCATGAGAAGT
<b>ECT2</b>	TTTTGAATCGGTTGTGGCGG	CTCTTCAAACGCCGACTCCT
<b>CDK1</b>	GGCTCTTGAAATTGAGCGG	GGTATGGTAGATCCCGGCTT
<b>PLK1</b>	AGAAGACCCTGTGTGGGACT	ACCTCGAAACTGTGCCCTTT

<b>ANLN</b>	TCAGACCCAAAGGTTGAGCA	AGGACATCACTGAAGAGGTCA
<b>AURKB</b>	ATCAGCTGCGCAGAGAGATCGAAA	CTGCTCGTCAAATGTGCAGCTCTT
<b>PRC1</b>	AGCATCCTGAGTGGTGGGTA	AACTGTCAGAGAGGGACGGA
<b>KIF23</b>	TGGTGCAGAGTCTGAATGGAC	GCTTTTTGCGCTTGGGTTGT
<b>KIF20A</b>	AGTATCCCAGGAGGAGCAAGT	ATCGTCATCGGACAGCAAGC
<b>KIF4A</b>	AACCTTTGTTGGATGTGGGC	TGACTTAGCACCCCTTCTGGAG
<b>KLHL21</b>	TTTGTGAGGGATGACTCCGC	CATGTACCTGATTCATGGACGG
<b>PITPNM1</b>	ACTACGCCAGAAGGCAATGT	ATAACCGGCCACGATGTTCA
<b>CDC42SE2</b>	GCGACGATAGGGCCAGATTT	TGCATACAGATGACCGCAGA
<b>TFAP2A</b>	ATATCCGTTACGCCGATCC	CCTCGCAGTCCTCGTACTTG
<b>E2F1</b>	AGCTGGACCACCTGATGAAT	GAGGGGCTTTGATCACCATA
<b>ETS1</b>	TGGCCCCAGACTTTGTTGG	GCGGGATTCTGGATAGGCTG
<b>ELK1</b>	ATTACGACAAGCTCAGCCGG	TGTAGACGAACTTCTGGCCG
<b>FOXP3</b>	AACCTTCCAGGGCCGAGAT	ACCATGACTAGGGGCAGTGT
<b>NFIC</b>	ATGTATTCGTCCCCGCTCTG	TGAACCAGGTGTAGGCGAAG
<b>SP1</b>	GGTTCGCTTGCCTCGTCAG	TGATCTTGGTCGCTCATGGT
<b>MYB</b>	CTGGGAAGGGGACAGTCTGA	GCTGGTGCCATTAACGGA
<b>MYC</b>	TCAAGAGGCGAACACACAAC	GGCCTTTTCATTGTTTTC

<b>KLF4</b>	TCAACGATCTCCTGGACCTG	ATCGGATAGGTGAAGCTGCA
<b>IL-6</b>	CCAGAGCTGTCCAGATGAGT	GAGTTGTCATGTCCTGCAGC
<b>YY1</b>	CTGGAGGGCGAGTTCTCG	TCTGTTCTTCAACCACTGTCTCA
<b>MLL1</b>	ACCTGGAGGTAATGCTTTCAGT	ATTGCTCTGCCGCAGTTTTTC

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<b>ChIP promoters</b>	<b>FORWARD</b>	<b>REVERSE</b>
<b>PAK2 promoter</b>	TGGCTGCTCCTCTCAATACAA	GCTGGGAGTAGTAGTTCGGTGA
<b>RHOA promoter</b>	GTCACCCTCTTGGGAGCTG	GAGGACCTGGAACACACGTT
<b>P4_BlackMamba</b>	GGCGAGGTTGTAGCAGAGAA	CTGTCCCCAGAAAGCAGGAG
<b>RHOA promoter</b>	ACAGCGACTTCGACTAAGCA	TGGGTCTGTTTTGAGTGGA
<b>ANLN promoter</b>	TCGGTGTTTCTGGGGCATATC	CACTCCTGAATGTGACAACGC
<b>ECT2 promoter</b>	CTTATCTCAGAGTGCGCCGT	GGCGGATGGCCTGGATTTAT
<b>PLK1 promoter</b>	GGAAAGAGTACCCAGCAAGGGA G	CAGAGCCAAGAAGCCCTTACCA
<b>AURKB promoter</b>	CCCAACGGACCCTCTGATCT	GATTCAGTTGTTTGCGGGCG
<b>KIF20A promoter</b>	CGAGGTGCCCTACTTTAGGC	CGGCATTTCTGAACGCGAAC
<b>KLHL21 promoter</b>	CACCCCGACAAAGGAGGTAG	AAACTGCCGAGTCATGGT

<b>PITPNM1 promoter</b>	CAAGGCTGGGTTTCATGGGAT	AGAGAGAAAGGGCACTGCTG
<b>CDC42SE2 promoter</b>	CCATCTTTCGGAGCGTCCTT	CGGGTTAGGAATTGGCCTCT
<b>KLF4 promoter</b>	ACTCACGTTATTCGGGGCAC	ATCTTTCTCCACGTTTCGCGT
<b><math>\alpha</math>-satellite</b>	CATAGAGGCCTGTGGTGGAA	ACGATGACTCCCAAAGCTGCT