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**Supplementary information**

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**Genetic elements promote retention of  
extrachromosomal DNA in cancer cells**

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**Genetic elements retain extrachromosomal DNA in dividing cancer cells**

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**Supplementary Table 2:** PCR primer sequences.

## Supplementary Tables

**Supplementary Table 1.**

Guide RNA target sequence	Guide RNA information
AGCGATGCGACCCTCCGGGA	CRISPRoff cargo guide
TCCATCCGCCCCGGTCACCGC	CRISPRoff cargo guide
GGCTCATCCGTGGTCGCCGG	CRISPRoff cargo guide
CCGCTCAACAAGTTCCCCGC	CRISPRoff cargo guide
CGCCATCTTGCTCGGCGCCT	CRISPRoff cargo guide
CCACUUGCCGUGAUUAUGAAC	CHD1 KO1
UUAUUUCGCCUAAGAGAACG	CHD1 KO2
UCGACAGAGACAAUCUCGCA	SMARCE1 KO1
UUGAUUCUCCUACCGUGACC	SMARCE1 KO2
AAACCAGUCGAACUCGAAGC	HEY1 KO1
AAUGUGUCCGAGGCCCGCGU	HEY1 KO2
GAACGACUAGUUAGGCGUGUA	Non-targeting control 1 (NTC1) ( <i>Gal4</i> targeting)
GTGCTGCAAGGCGATTAAGT	Non-targeting control 2 (NTC2) ( <i>LacZ</i> targeting)

**Supplementary Table 2.**

Primer sequence	Primer information
GTCGACTCTAGAGGATCCCCTCGTCG GCAGCGTCAGATGTGTATAAGAGACAG	p5_pUC19_Smal_20b p
TGAATTCGAGCTCGGTACCCGTCTCGT GGGCTCGGAGATGTGTATAAGAGACAG	p7_pUC19_Smal_20b p
GTCGACTCTAGAGGATCCCC	pUC19_Smal_5prime _fwr
TGAATTCGAGCTCGGTACCC	pUC19_Smal_3prime _rev
TCGTCGGCAGCGTCAGATGTGTATAAGAGACAG	p5_adapter_only
GTCTCGTGGGCTCGGAGATGTGTATAAGAGACAG	p7_adapter_only
ACCATGATTACGCCAATCCAGATGCCTCTCTGGCC	pUC19_2RE forward
ACCTGCAGGCATGCACCTAGGCTTGAACCCCTCCA	pUC19_2RE reverse
GGGGTACCGAGCTCGATCCAGATGCCTCTCTGGCC	pUC19_3RE forward
AAACGACGGCCAGTGCCTAGGCTTGAACCCCTCCA	pUC19_3RE reverse
ACCATGATTACGCCAATCCAGATGCCTCTCTGGCC	pUC19_tile1 forward
ACCTGCAGGCATGCAGATGTGGGTGGGGCCAGATA	pUC19_tile1 reverse
ACCATGATTACGCCATTACAGCTCTTAAGGCGGCG	pUC19_tile2 forward

ACCTGCAGGCATGCAACACCAATCGGCACTCTGTATC	pUC19_tile2 reverse
ACCATGATTACGCCACCACATCCTGCTGATTGGTCC	pUC19_tile3 forward
ACCTGCAGGCATGCATCCACTGGGTGAAGCCAGCT	pUC19_tile3 reverse
ACCATGATTACGCCAGATACAGAGTGCCGATTGGTGT	pUC19_tile4 forward
ACCTGCAGGCATGCAGCGCTGTACTCGATTTCTCG	pUC19_tile4 reverse
ACCATGATTACGCCAAGCTGGCTTCACCCAGTGGA	pUC19_tile5 forward
ACCTGCAGGCATGCACCCTCTCTGGGCTGGCCAAG	pUC19_tile5 reverse
ACCATGATTACGCCAGAAATCGAGTACAGCGCCGG	pUC19_tile6 forward
ACCTGCAGGCATGCATGGTGAGAGGCAGAACTGGC	pUC19_tile6 reverse
ACCATGATTACGCCACCTTGGCCAGCCCAGAGAGG	pUC19_tile7 forward
ACCTGCAGGCATGCAGGCTCTGGGACTCAGCATGAGA	pUC19_tile7 reverse
ACCATGATTACGCCAGCCTCTTGTGCCAGTTCTGC	pUC19_tile8 forward
ACCTGCAGGCATGCACCTAGGCTTGAACCCCTCCA	pUC19_tile8 reverse
ACCATGATTACGCCAGGCATTGATTATTGACTAGT	pUC19_CMV forward
ACCTGCAGGCATGCAAGCTCTGCTTATATAGACCT	pUC19_CMV reverse
CAACAAGGTCTCCAATTGACTAGATTAGCTAGATACAGA GTGTCC	pGL4_RE1 forward
GCAAACGGATCCGTTTCTGGAGAAAGGGAGTAAGTAAG	pGL4_RE1 reverse
ATTTCCGTGTCGCCCTTATT	qPCR pUC19_F
ACCGCTGTTGAGATCCAGTT	qPCR pUC19_R
CACCGTCAAGGCTGAGAAC	qPCR GAPDH_F
TATACCCAAGGGAGCCACAC	qPCR GAPDH_R
CCGCCTCCATCCAGTCTAT	qPCR pGL4_F
CGAACGACGAGCGTGATAC	qPCR pGL4_R