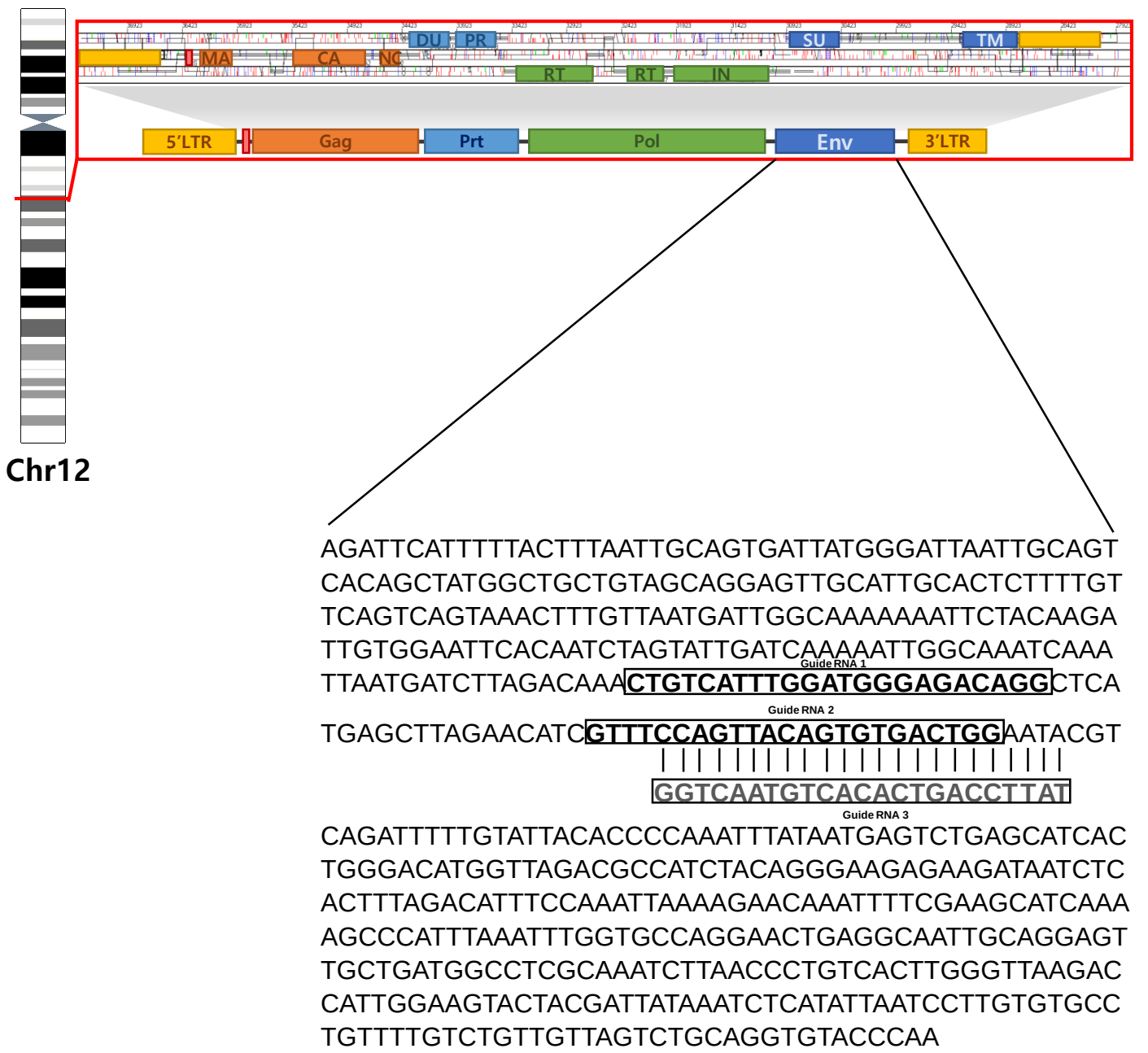
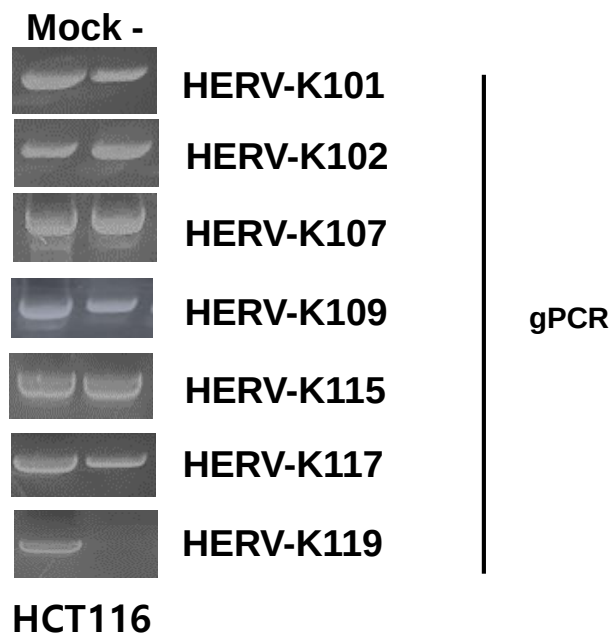


HERV-K119 chr12:58,327,625-58,336,907 (-) (hg38)

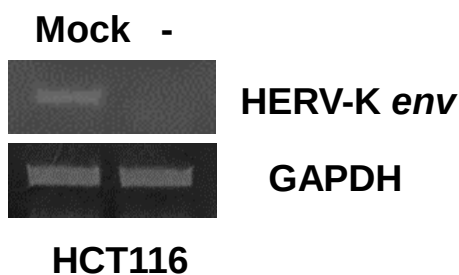


**Supplement-Figure. 1 . Selection of three guide RNAs for targeting of HERV-K Env knockout system.** Structure of HERV-K119 located on chromosome12 and the location of three guide RNAs for Crispr/Cas-9 kockout system of HERV-K env gene.

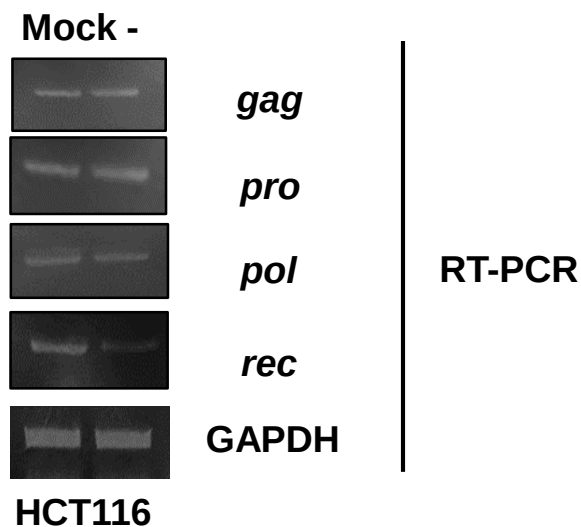
(a)



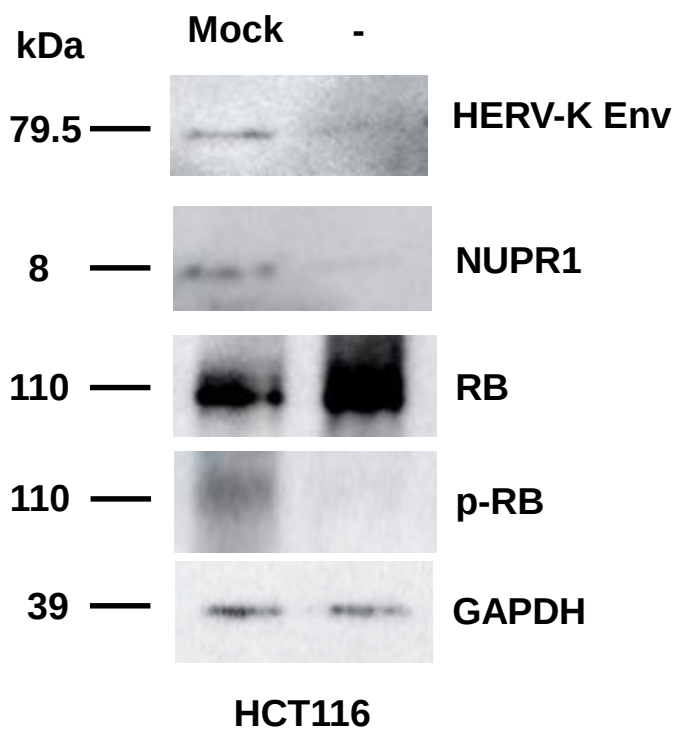
(b)



(c)



(d)



**Supplement-Figure. 2 Knockout of HERV-K *env* gene in HCT116 colorectal cells.** (a) Knockout of HERV-K *env* gene in HERV-K119 region. Genomic polymerase chain reaction (PCR) was performed for specific regions of HERV-K *env* derivatives. (b) Expression of HERV-K *env* RNA in HERV-K *env* knockout (KO) in HCT116 cells. RT-PCR performed for general region of HERV-K *env* gene. (c) Expression of HERV-K119 *gag*, *pro*, *pol* and *rec* in HCT116 colorectal cancer cells. (d) Protein expression of various target genes regulated by HERV-K *env* gene. The expression of RB protein was significantly increased whereas phosphor-RB was decreased in HERV-K *env* KO HCT116 colorectal cancer cells.