Supplementary Figure Legends

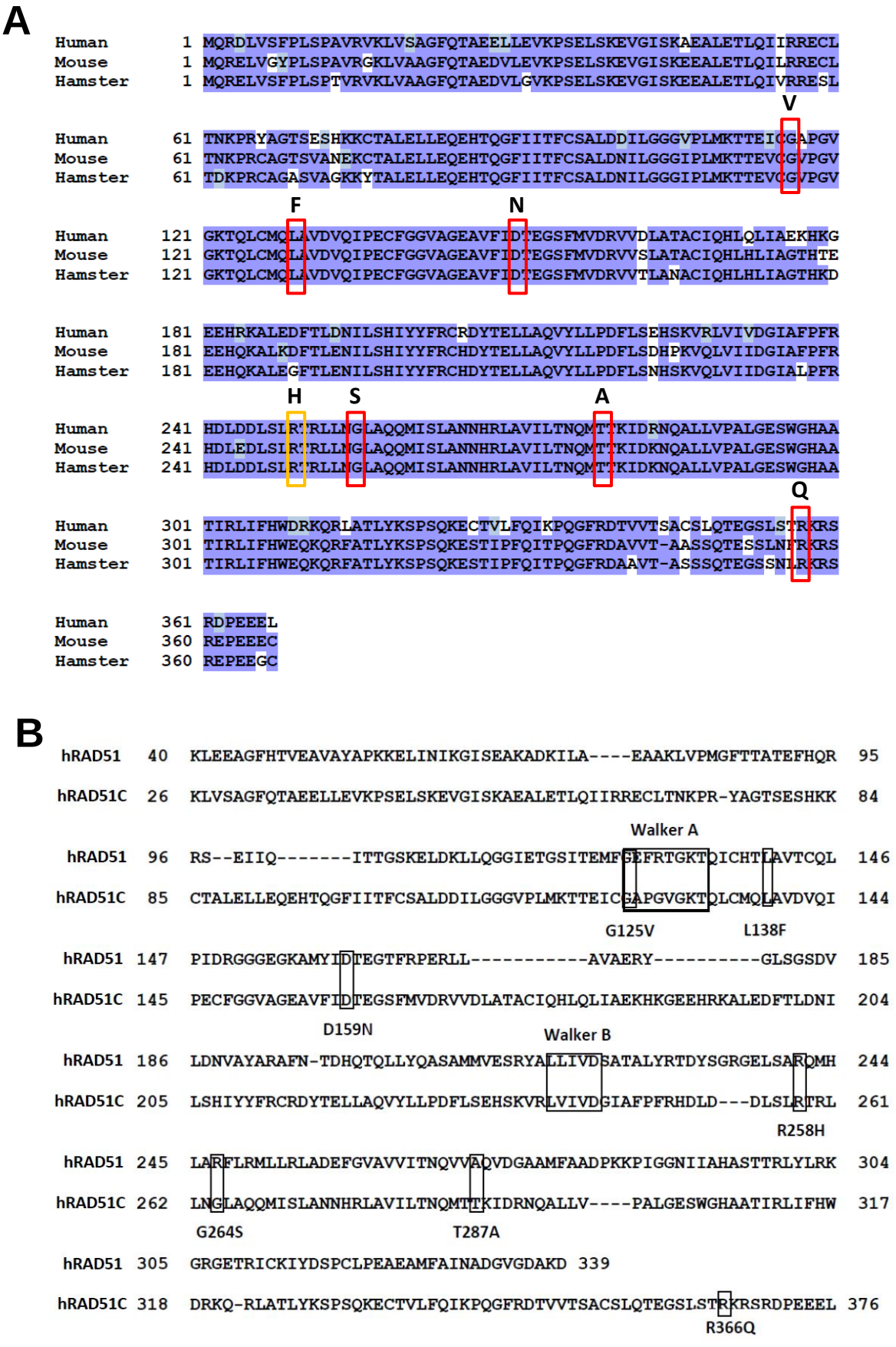
Supplementary Fig. 1. (A) Sequence alignment of RAD51C protein from human, mouse and hamster using clustal W2. The residue that was found mutated in FA-like disorder is shown in orange box and the missense mutations found in breast and ovarian cancers are shown in red boxes. Respective missense mutations are indicated above the box. (B) Sequence alignment of human RAD51C with human RAD51 using PSI-BLAST. The conserved Walker A and B motifs are shown in the boxes. The RAD51C residues that were found mutated in FA-like disorder and breast and ovarian cancers are presented in boxes and the missense mutations are indicated below the sequence.

Supplementary Fig. 2. Germline mutations in RAD51C do not affect proliferation rate of the cells. (A) Respective cells were plated at low density in 100 mm petridish, trypsinized, counted and replated the remaining cells at the interval of 12 h up to 72 h to monitor the growth rate. Experiments were performed in triplicates and error bar indicate the ± s.d from the mean value. (B) Cell cycle profile of CL-V4B cells expressing wtRAD51C and control empty vector at different time points after releasing from nocodazole arrest (150 ng/ml 12 h) in fresh media.

Supplementary Fig. 3. Sensitivity in CL-V4B cells can be rescued by wt hRAD51C expression similar to V79B parental cells. Cell survival studies in the presence of different DNA damaging agents in V79B, CL-V4B cells transfected with vector or wt hRAD51C. Experiments were performed in triplicates and error bar indicate the ± s.d from the mean value.

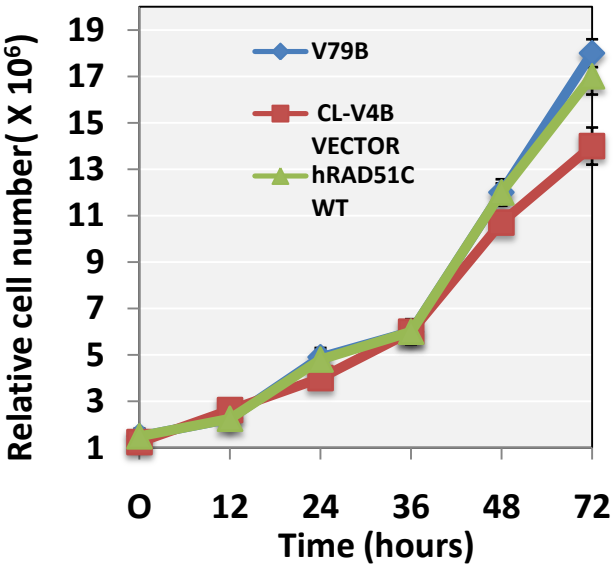
Supplementary Fig. 4. Representative neutral comet images for the indicated cells. Individual cell resembling comet are shown after treatment with 50 ng/ml MMC and recovered at 0 h, 14 h and 24 h.

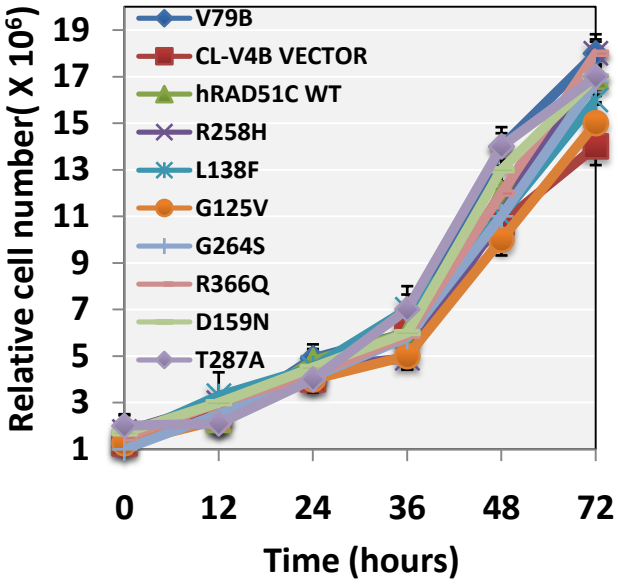
Supplementary Fig. 5. Role of RAD51C in the S-phase check point control after replication stress. CL-V4B vector cells, and CL-V4B cells rescued with wtRAD51C and its variants were either untreated or treated with CPT (1.5 μM for 3 h) and recovered in fresh media. Cells were harvested at indicated time point and analyzed by flow cytometry.



Supplementary Figure 1

A





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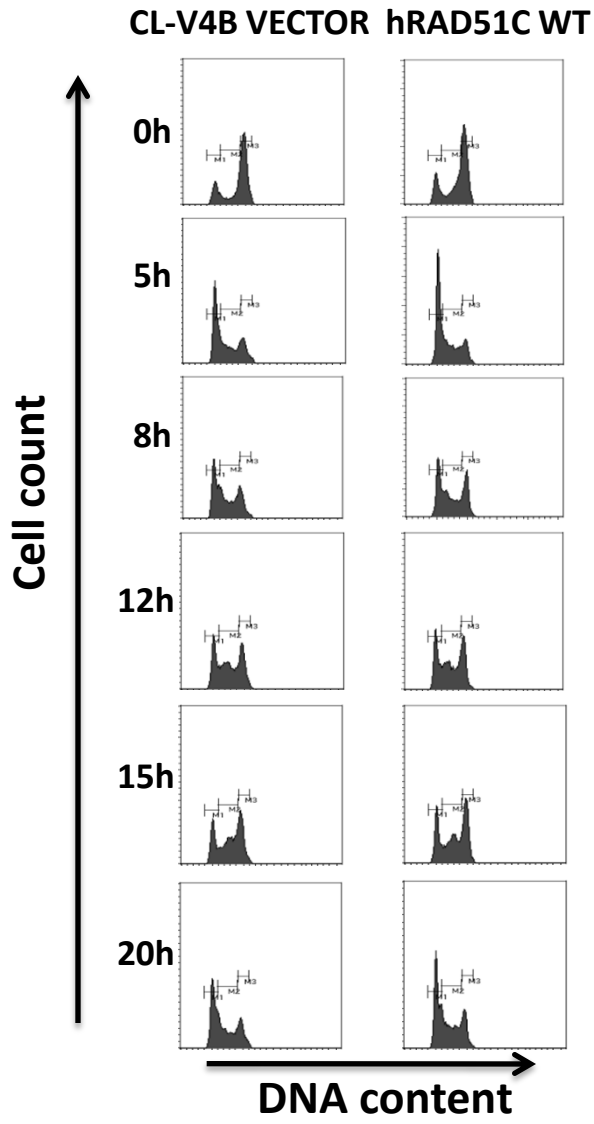
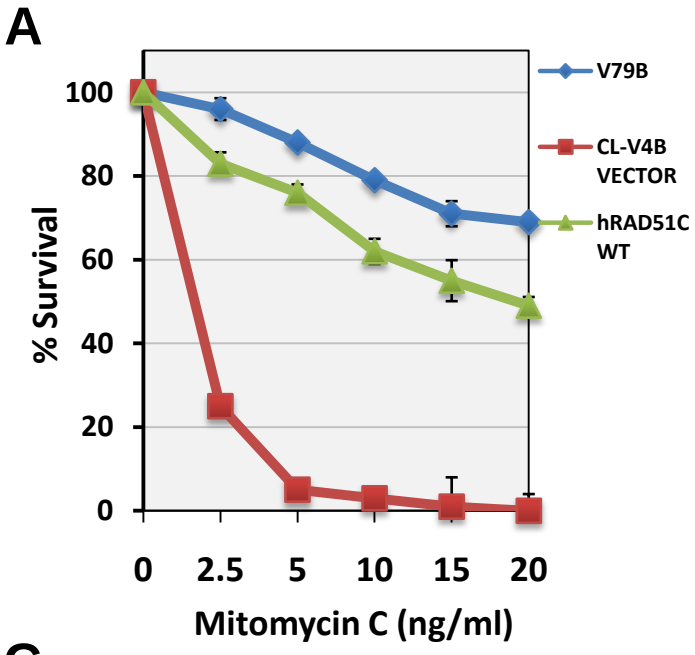
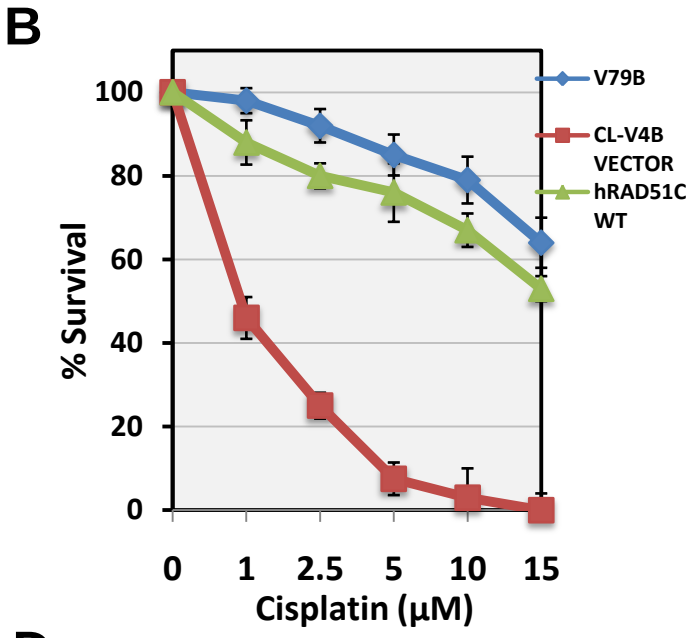
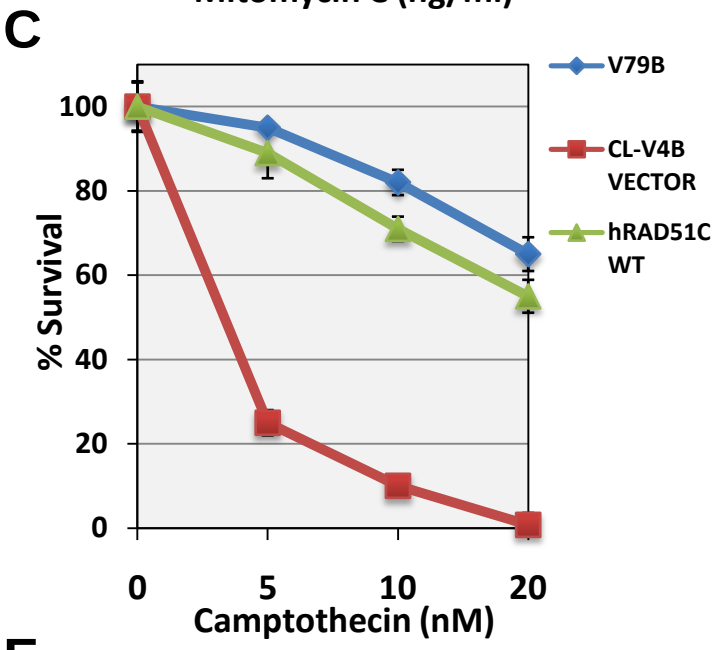
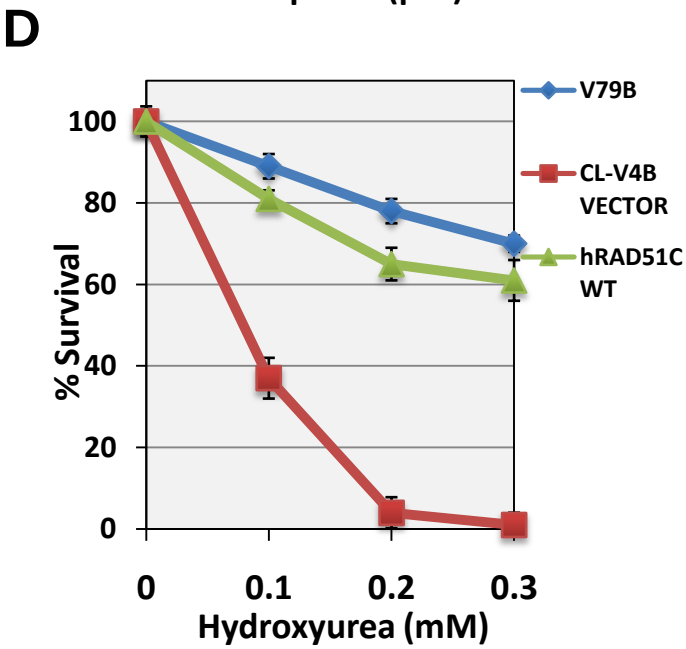


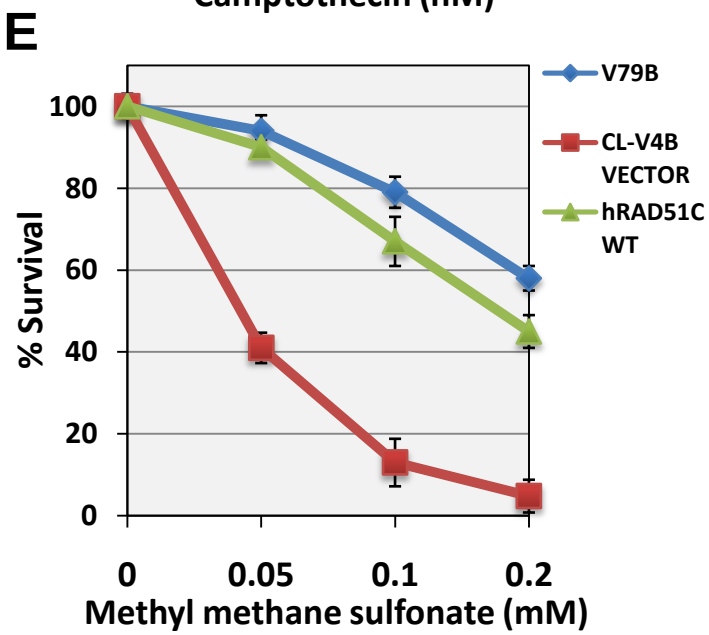
Supplementary Figure 2



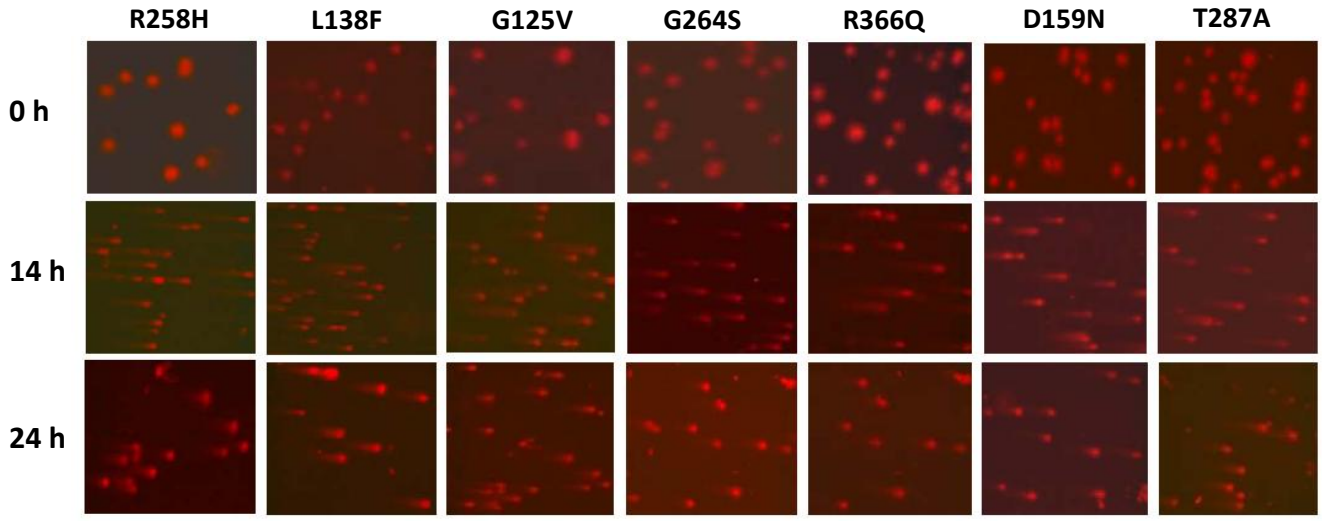




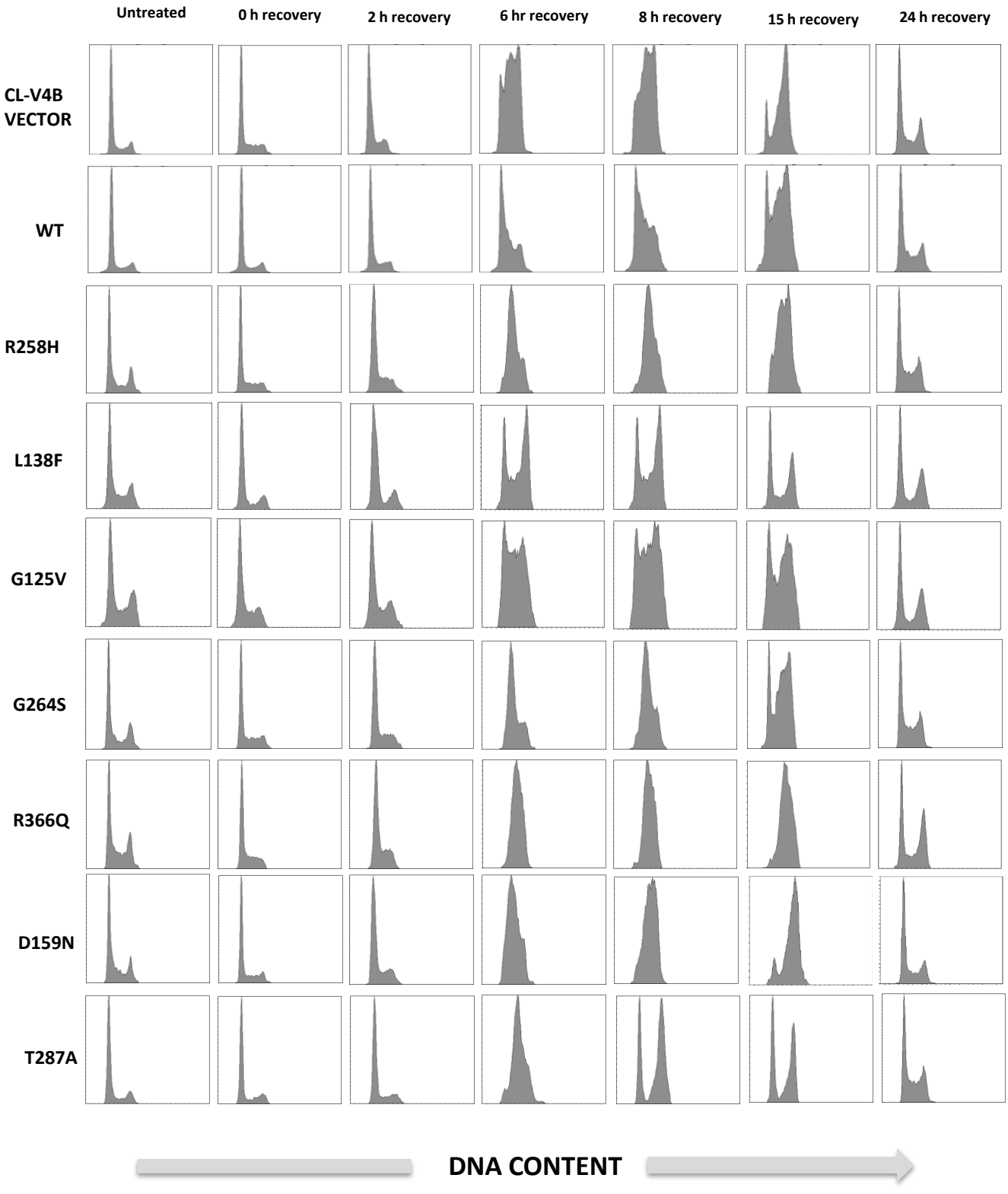




Supplementary Figure 3



Supplementary Figure 4



Supplementary Figure 5