SMARCAD1-mediated recruitment of the DNA mismatch repair protein MutLα to MutSα on damaged chromatin induces apoptosis in human cells

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Supporting Information

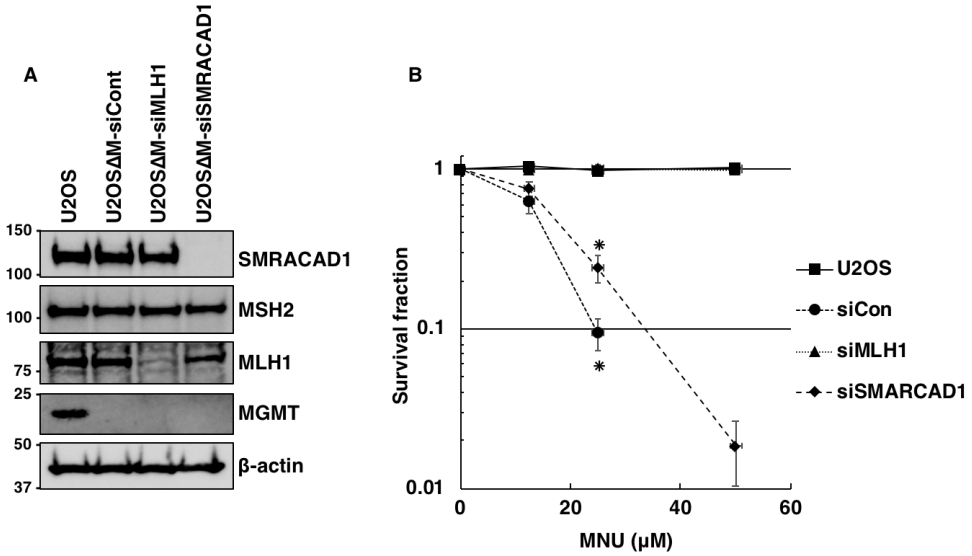

FIGURE S1. The sensitivity of *SMARCAD1*-knockdown U2OS-derived cells to MNU. A. The expression of SMARCAD1 and mismatch repair (MMR) proteins in U2OS-derived cells. The whole-cell extracts prepared from U2OS, *MGMT*-knockout (U2OSΔM-siCont), *MLH1*-knockdown (U2OSΔM-siMLH1) and *SMARCAD1*-knockdown (U2OSΔM-siSMARCAD1) cells were subjected to immunoblotting to detect SMARCAD1 and MMR proteins using specific antibodies. β-actin was a loading control. The molecualr weights ($\times 10^{-3}$) are indicated on the left of the panels. B. The survival fraction of four types of cells after MNU treatment. The cells were treated with MNU for 1 h and then incubated in a drug-free medium for 10 days. The number of colonies was counted, and the survival fractions were determined. Values are the means of at least three independent experiments, and error bars are ±SEM. Asterisks indicate significant differences ($p < 0.05$).

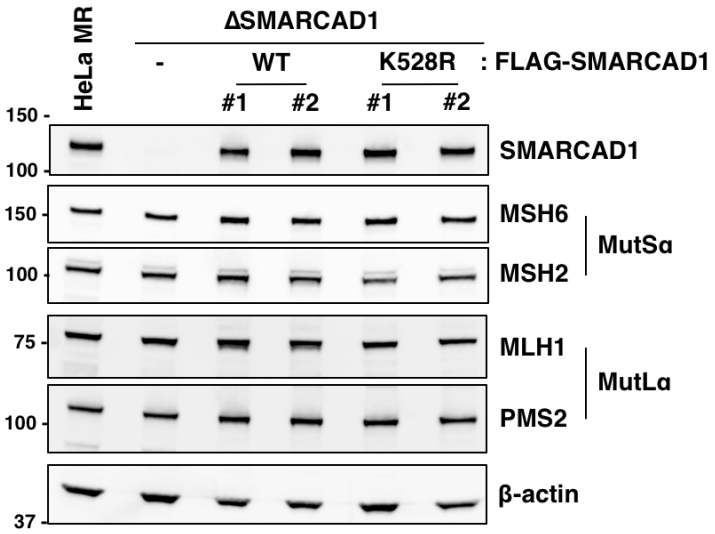

FIGURE S2. The expression of SMARCAD1 and mismatch repair proteins. Whole-cell extracts prepared from cells expressing exogeneous wild- or mutant-type SMARCAD1 were subjected to immunoblotting to detect SMARCAD1 and MMR proteins using specific antibodies. β-actin was a loading control. The molecualr weights ($\times 10^{-3}$) are indicated on the left of the panels.

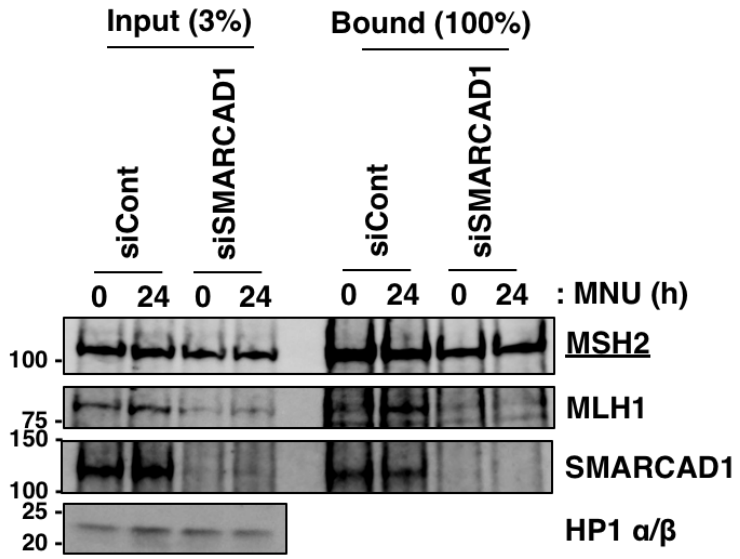

FIGURE S3. The effects of *SMARCAD1*-knockdown on the formation of MMR complex in *MGMT*-knockout U2OS cells. The siRNA-transfected cells were exposed to 0.2 mM MNU and harvested at 24 h after the treatment. The chromatin extracts (Input) were used for immunoprecipitation with anti-MSH2 antibody beads. The materials (Bound) were subjected to SDS–PAGE, and immunoblotted using the indicated antibodies. The molecualr weights ($\times 10^{-3}$) are indicated on the left of the panels.

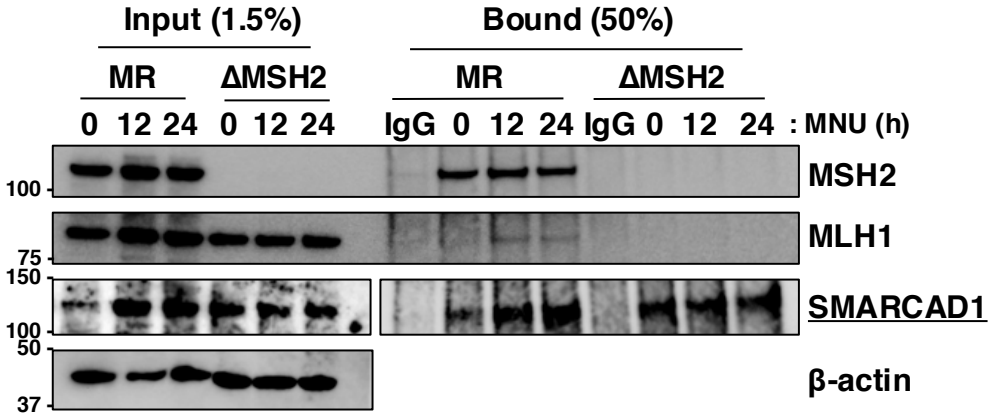

FIGURE S4. The effects of *MSH2*-knockout on the interation of SMARCAD1 with MLH1 after MNU treatment. The cells were exposed to 0.2 mM MNU and harvested at 0, 12 and 24 h after the treatment. The whole cell extracts (Input) were used for immunoprecipitation with anti-SMARCAD1 antibody beads. The materials (Bound) were subjected to SDS–PAGE and immunoblotted using the indicated antibodies. The molecualr weights ($\times 10^{-3}$) are indicated on the left of the panels.