

Figure S1. CYLD expression following AZA treatment. Representative western blot of CYLD protein expression following 72 h treatment with AZA (5  $\mu$ M) relative to  $\beta$ -actin. CYLD, CYLD lysine 63 deubiquitinase; AZA, 5-Aza-deoxycytidine; Ctrl, control.

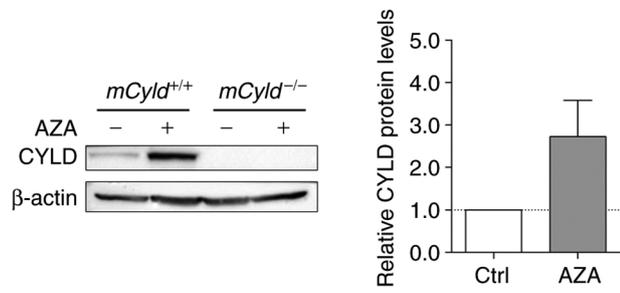


Figure S2. CYLD protein expression following inhibitor treatment. Representative western blot of CYLD protein expression (relative to  $\beta$ -actin) following 24 h treatment with Chaetocin in (A) murine and (B) h and JIB04 in (C) murine and (D) h cells. CYLD, CYLD lysine 63 deubiquitinase; JIB04, Jumonji histone demethylase inhibitor; Ctrl, control; h, human; m, mouse.

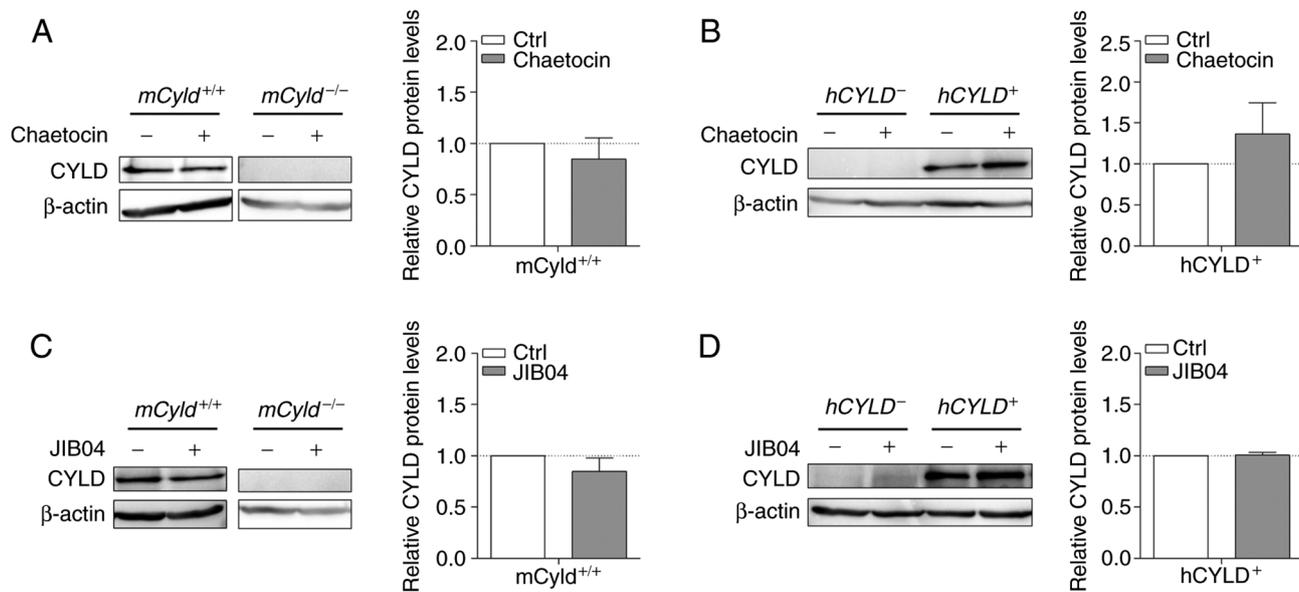


Figure S3. Role of the deubiquitinase function of CYLD. Effect of CM272 treatment on catalytically inactive *CYLD* melanoma cells (*hCYLD<sup>C/S</sup>*). (A) Representative western blot of H3K9me2 levels following 24 h treatment with CM272 (200 nM) relative to H3. (B) Representative images of anchorage-dependent clonogenic assay. (C) Representative western blot of CYLD protein expression following 24 h treatment with CM272 relative to  $\beta$ -actin. (D) Chromatin accessibility assay of *hCYLD<sup>+</sup>* and *hCYLD<sup>C/S</sup>* relative to *hCYLD<sup>-</sup>* cells. (E) Representative western blot analysis of EHMT2 protein expression in *hCYLD<sup>C/S</sup>* and *hCYLD<sup>-</sup>* cells (relative to  $\beta$ -actin). (F) Validation of H3K9me2 levels in *hCYLD<sup>C/S</sup>* and *hCYLD<sup>-</sup>* cells. \* $P < 0.05$ . ns, not significant; EHMT2, euchromatic histone lysine methyltransferase 2; CYLD, CYLD lysine 63 deubiquitinase; Ctrl, control; h, human; H3, histone 3.

