Supplementary Table 1: Previously characterized properties of MCL cell lines.

EBV, Epstein Barr Virus; ND, Not Determined; Del, Allele Deletion; Pm, polymorphism; Mut, Mutation; *, mutation in ATM kinase domain. References are given in parenthesis.

Cell Line	ATM status (Allele 1 / Allele 2)	p53 status (Allele 1 / Allele 2)	Ploidy	EBV	t(11;14)(q13;q32) translocation
Granta-519	Del (1) / Mut (R2832C)* (2)	WT / Del (3)	2N (4)	+ (5)	+ (6)
HBL-2	ND / ND	Del (7) / D281G (8)	2N (4)	- (9)	+ (9)
JVM-2	WT / WT (10)	WT / WT (10)	2N (4)	+ (7)	+ (11)
MAVER-1	Del / ND (12)	Del / Mut (D281E/H) (8, 12)	2N (4)	- (12)	+ (12)
UPN1	WT / Pm (S333F) (13)	Mut (E286K) / Del (8, 13)	2N (4)	- (13)	+ (13)
UPN2	Del / Mut (D2725V)* (13)	Del / Mut (R175H) (13)	3N (4)	- (13)	+ (13)
Z138	ND / ND	WT / WT (7)	2N (4)	- (14)	+ (14)

References for Supplementary Table 1

1. Rudolph C, Steinemann D, Von Neuhoff N, et al. Molecular cytogenetic characterization of the mantle cell lymphoma cell line GRANTA-519. Cancer Genet Cytogenet 2004;153:144-50.

2. Vorechovsky I, Luo L, Dyer MJ, et al. Clustering of missense mutations in the ataxia-telangiectasia gene in a sporadic T-cell leukaemia. Nat Genet 1997;17:96-9.

3. Camps J, Salaverria I, Garcia MJ, et al. Genomic imbalances and patterns of karyotypic variability in mantle-cell lymphoma cell lines. Leuk Res 2006;30:923-34.

4. Salaverria I, Perez-Galan P, Colomer D, Campo E. Mantle cell lymphoma: from pathology and molecular pathogenesis to new therapeutic perspectives. Haematologica 2006;91:11-6.

5. Drexler HG, MacLeod RA. Malignant hematopoietic cell lines: in vitro models for the study of mantle cell lymphoma. Leuk Res 2002;26:781-7.

6. Jadayel DM, Lukas J, Nacheva E, et al. Potential role for concurrent abnormalities of the cyclin D1, p16CDKN2 and p15CDKN2B genes in certain B cell non-Hodgkin's lymphomas. Functional studies in a cell line (Granta 519). Leukemia 1997;11:64-72.

7. Tucker CA, Bebb G, Klasa RJ, et al. Four human t(11;14)(q13;q32)-containing cell lines having classic and variant features of Mantle Cell Lymphoma. Leuk Res 2006;30:449-57.

8. Bea S, Salaverria I, Armengol L, et al. Uniparental disomies, homozygous deletions, amplifications, and target genes in mantle cell lymphoma revealed by integrative high-resolution whole-genome profiling. Blood 2009;113:3059-69.

9. Abe M, Nozawa Y, Wakasa H, Ohno H, Fukuhara S. Characterization and comparison of two newly established Epstein-Barr virus-negative lymphoma B-cell lines. Surface markers, growth characteristics, cytogenetics, and transplantability. Cancer 1988;61:483-90.

10. Ferrer A, Marce S, Bellosillo B, et al. Activation of mitochondrial apoptotic pathway in mantle cell lymphoma: high sensitivity to mitoxantrone in cases with functional DNA-damage response genes. Oncogene 2004;23:8941-9.

11. Melo JV, Brito-Babapulle V, Foroni L, Robinson DS, Luzzatto L, Catovsky D. Two new cell lines from B-prolymphocytic leukaemia: characterization by morphology, immunological markers, karyotype and Ig gene rearrangement. Int J Cancer 1986;38:531-8.

12. Zamo A, Ott G, Katzenberger T, et al. Establishment of the MAVER-1 cell line, a model for leukemic and aggressive mantle cell lymphoma. Haematologica 2006;91:40-7.

13. M'Kacher R, Bennaceur A, Farace F, et al. Multiple molecular mechanisms contribute to radiation sensitivity in mantle cell lymphoma. Oncogene 2003;22:7905-12.

14. Estrov Z, Talpaz M, Ku S, et al. Z-138: a new mature B-cell acute lymphoblastic leukemia cell line from a patient with transformed chronic lymphocytic leukemia. Leuk Res 1998;22:341-53.

Figure legends for Supplementary Figures

Supplementary Figure 1- ATM signaling in lymphoblastoid control cell lines

Lymphoblastoid cell lines, A) C35ABR (BT) and B) L3 were exposed to 2 Gy IR and harvested following the indicated incubation times. Whole cell extracts (50 µg total protein) were analyzed by SDS PAGE and immunoblots were probed for autophosphorylation of ATM on Ser-1981, phosphorylation of SMC-1 on Ser-957 and Ser-966, and phosphorylation of KAP1 on Ser-824 as indicated. Immunoblots were also probed for total ATM, SMC-1 and KAP1. Actin and DNA-PKcs levels are shown as loading controls.

Supplementary Figure 2. ATM-dependent signaling in MCL cell lines

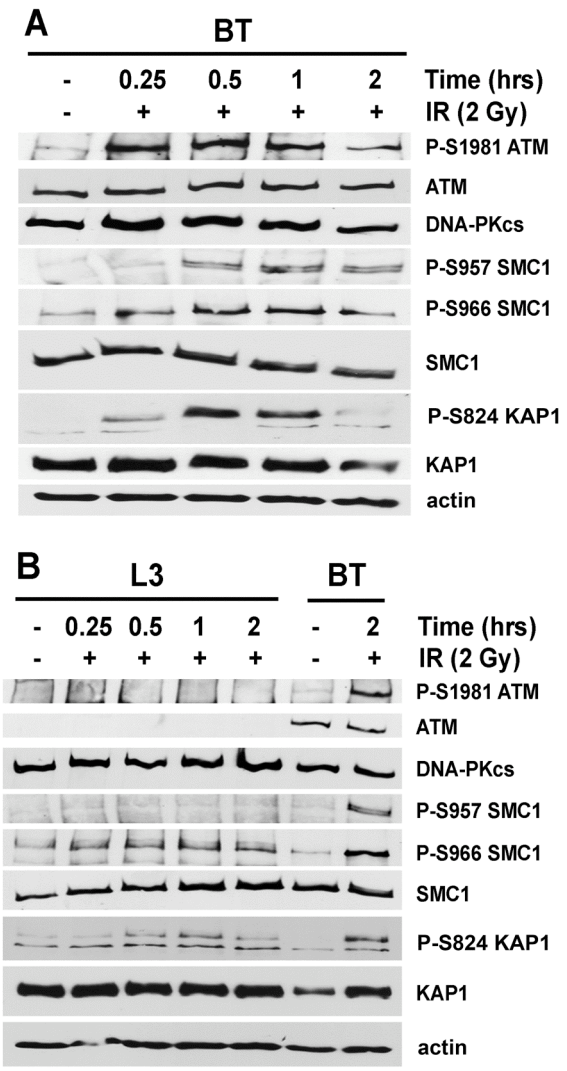
MCL cell lines, A) HBL-2, B) MAVER-1 and C) JVM-2 cells were exposed to 2 Gy of IR and analyzed as in Supplementary Figure 1.

Supplementary Figure 3. Quantitation of ATM knockdown in ZC-shATM

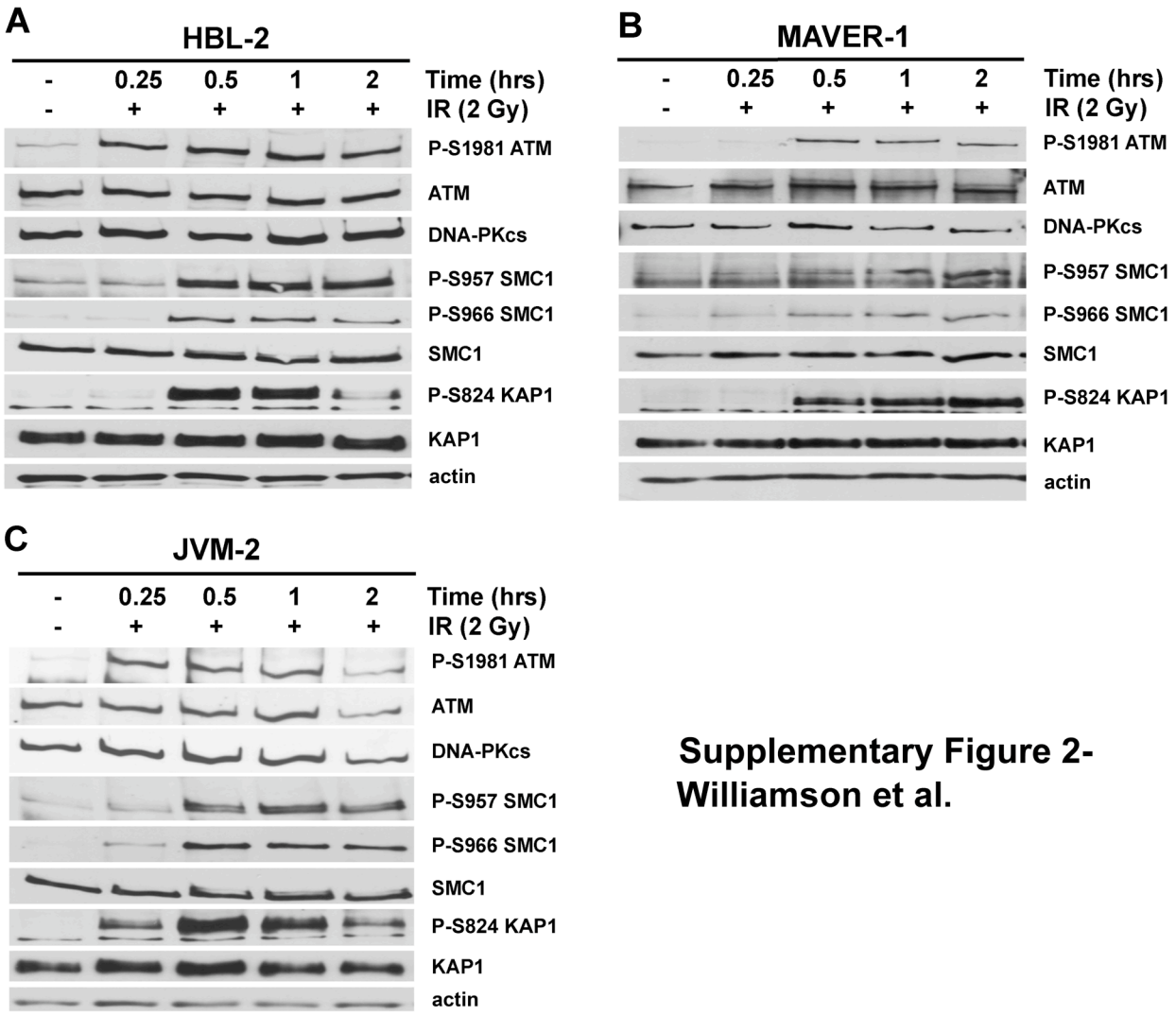
The ratio of ATM to DNA-PKcs protein expression for each cell line shown in Figure 4A was normalized to that in BT cells.

Supplementary Figure 4. Olaparib induces P-S1981 in UPN1 cells but not UPN2 cells

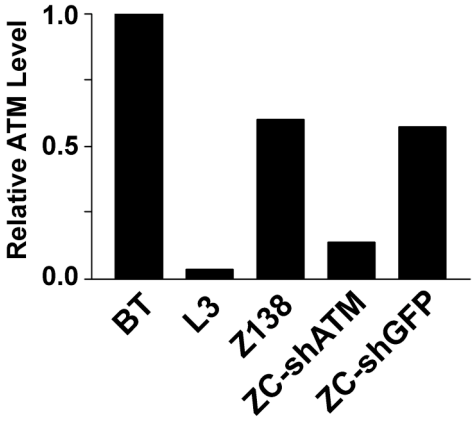
UPN1 (A) and UPN2 (B) cells were exposed to olaparib (2.5 µM) or vehicle (VEH, DMSO) for 24, 48, 72 or 96 hours as indicated. Whole cell extracts (50 µg total protein) were run on SDS PAGE, immunoblotted and probed for ATM autophosphorylation at Ser-1981 (P-S1981), total ATM and total SMC-1 as indicated. Quantitation of olaparib-induced P-S1981 ATM compared to total ATM for UPN1 is shown below the blot. As a positive control for P-Ser-1981, in the UPN2, BT cells were irradiated 2 Gy and harvested after 1 hour.



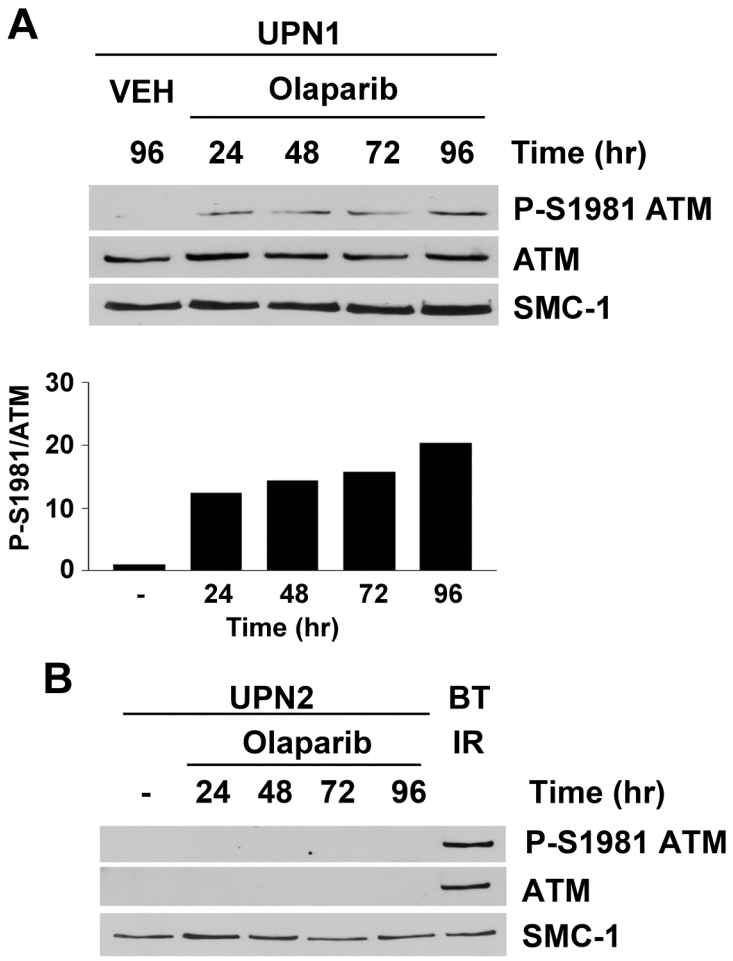
Supplementary Figure 1- Williamson et al.



Supplementary Figure 2- Williamson et al.



Supplementary Figure 3- Williamson et al.



Supplementary Figure 4- Williamson et al.