

Cell line	Observed proportion surviving	Expected proportion surviving	Combinatorial index
Daoy	0.19	0.27	0.75
D283	0.38	0.41	0.92
UW228	0.34	0.31	1.08

Supplementary Table 1 The combinatorial index of medulloblastoma cell lines treated with a combination of 1uM LBW-242 and 2 Gy (Daoy, D283) or 4Gy (UW228) irradiation in a colony formation assay. A CI of < 1 denotes a synergistic interaction, a CI of 1 +/-0.2 denotes an additive interaction, and a CI of > 1 indicates an antagonistic interaction.

Sample ID	Pathology	Age at diagnosis (Years)	Sex	Current Clinical Status
R001	Medulloblastoma (classical)	5.2	Male	Remission
R026	Medulloblastoma (classical)	6.9	Female	Remission
R029	Medulloblastoma (classical)	1.5	Female	Relapse
R034	Medulloblastoma (classical)	8.4	Female	Remission
R060	Medulloblastoma (with extensive nodularity)	1.6	Male	Remission

Supplementary Table 2: Clinical characteristics of patients from which short term primary tumour cultures were derived.

	LBW-242 ID50 (μM)	Cisplatin ID50 (μM)	Cisplatin ID50 in combination (μM)	LBW242 ID50 in combination (μM)	Fold change Cisplatin ID50
DAOY	19.2	0.506	0.216	2.16	2.3
UW228	44	4.15	2.65	26.6	1.56
D283	IA	2.44	0.38	9.2	1.76
R001	61.76	51.95	32.6	26.08	1.59
R034	IA	31.18	12.25	8.75	2.54
R029	79.5	IA	59.5	59.5	N/A
R060	IA	36.64	16.64	41.6	2.2
R026	IA	7.7	5.36	26.8	1.43

Supplementary Table 3: The ID50 of medulloblastoma cell lines and primary cultures treated with LBW-242 and Cisplatin, calculated from synergy assay curves using interpolated x values (Graph Pad Prism 5). (IA = Inactive as single agent; N/A = not applicable)

Supplementary Figure 1: Treatment with cisplatin increases IAP gene expression in additional medulloblastoma cell lines

Altered transcript levels of cIAP1, cIAP2 and XIAP in medulloblastoma cell lines D283 (A) and UW228 (B) following exposure to cisplatin or 8 Gy irradiation in Daoy cells (C). Data points represent the mean with standard errors. P values were calculated using an unpaired t-test (2-tailed).

Supplementary Figure 2 Treatment with irradiation and LBW242 leads to apoptosis of medulloblastoma cell lines

(A) Image representative of clonogenic assay in UW228 cells treated +/- LBW242 1 μ M +/- 4 Gy radiation. (B) Daoy medulloblastoma cells were treated with 10 μ M LBW-242 and / or 8-10 Gy irradiation and incubated for 72 hours followed by staining with Annexin V-FITC and propidium iodide (PI). Cells positive for both Annexin V and PI were quantitated. At 0, 24 and 48 hours following treatment with LBW242 (10 μ M), irradiation (10 Gy) or combination treatment, ELISA was used to detect (B) Caspase 3/7 (C) caspase 9 and (D) Caspase 8 activity in Daoy medulloblastoma cells. P values compare the relative activity of LBW242 versus LBW242 plus irradiation at the 48 hour time point. (E) Daoy cells were treated with a combination of 10 μ M LBW-242 and 1 μ M cisplatin in the presence or absence of 40 μ M of Z-IETD-FMK (Caspase 8 inhibitor), Z-LEHD-FMK (Caspase 9 inhibitor), or Z-DEVD-FMK (caspase 3 / 7 inhibitor) and incubated for 72 hours. Following addition of resazaurin, cells were incubated for a further 7 hrs before calculating cell survival based on absorbance. Data points represent mean of experiment performed in triplicate, error bars represent standard error, P values were calculated using an unpaired t-test (2-tailed).