

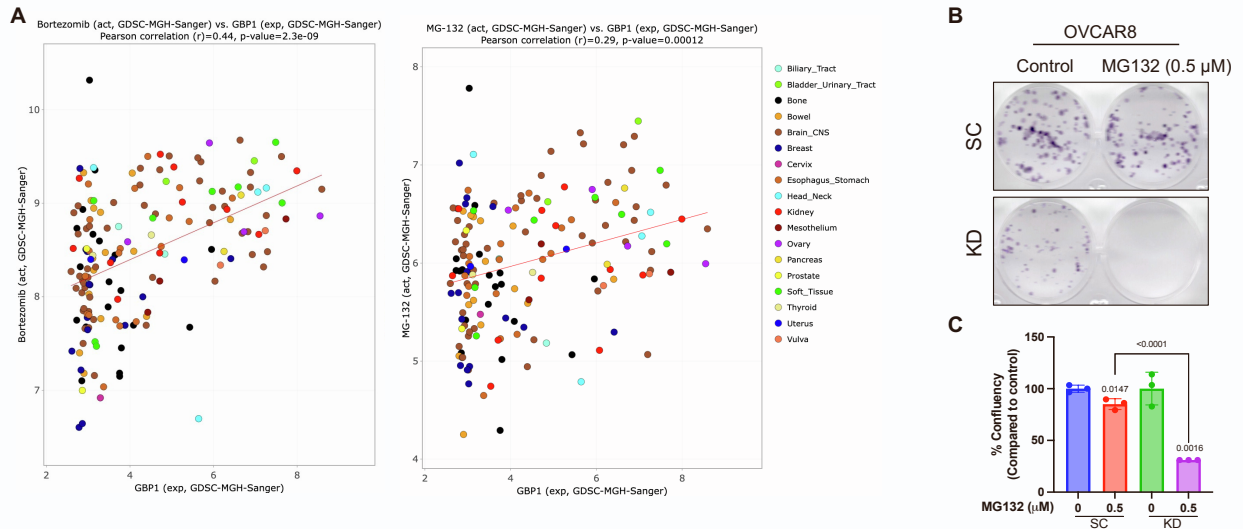
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Supplemental information

Guanylate-binding protein 1 modulates proteasomal machinery in ovarian cancer

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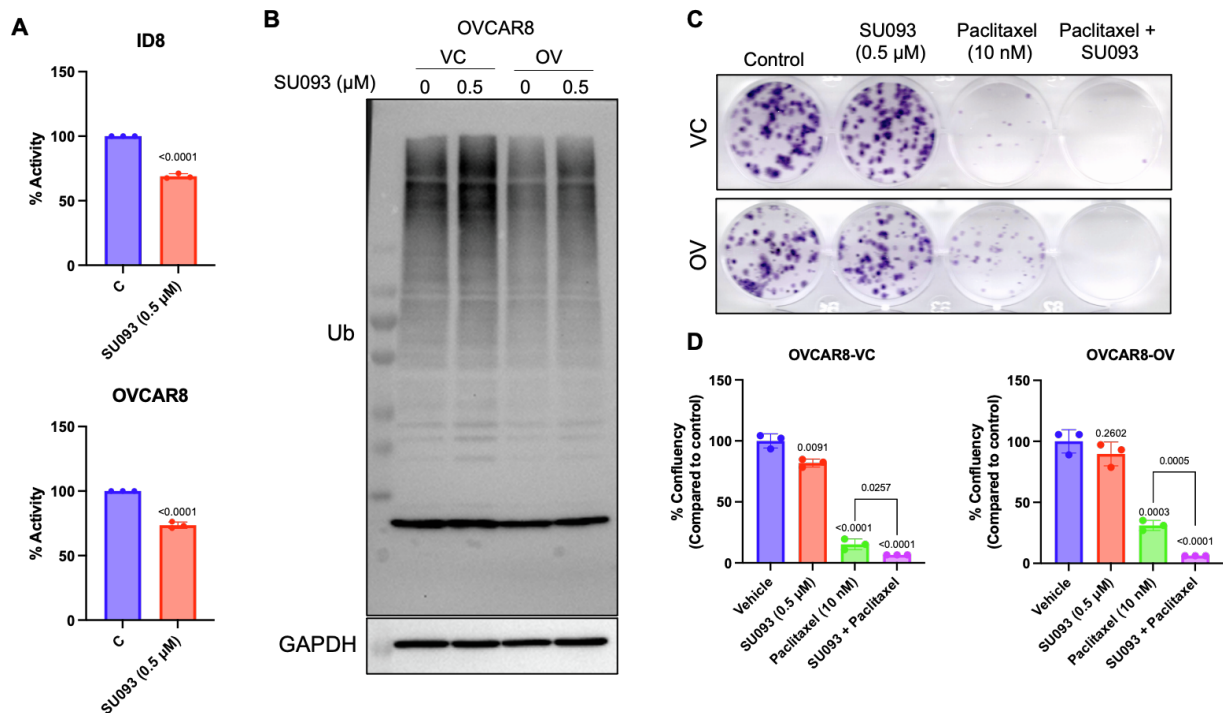
Supplementary Figure 1



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2 **Supplementary Figure 1: GBP1 expression influences the proteasome inhibitor's**
3 **response. (A)** Pharmacogenomic data analysis of cancer cell line using CellMinerCDB for
4 GBP1 expression and Bortezomib/MG132 cytotoxic response. **(B-C)** 100-300 transduced-
5 OVCAR8 (SC, KD) cells/well were plated in 12 well tissue culture plates followed by
6 treatment with MG132 (0.5 μ M) after 24 h and allowed to grow for 7-10 days. Colonies
7 were stained using crystal violet and confluency was measured. Data are shown as mean \pm
8 SD of triplicate samples. Significant differences compared to respective controls was
9 assessed by Student's t-test.

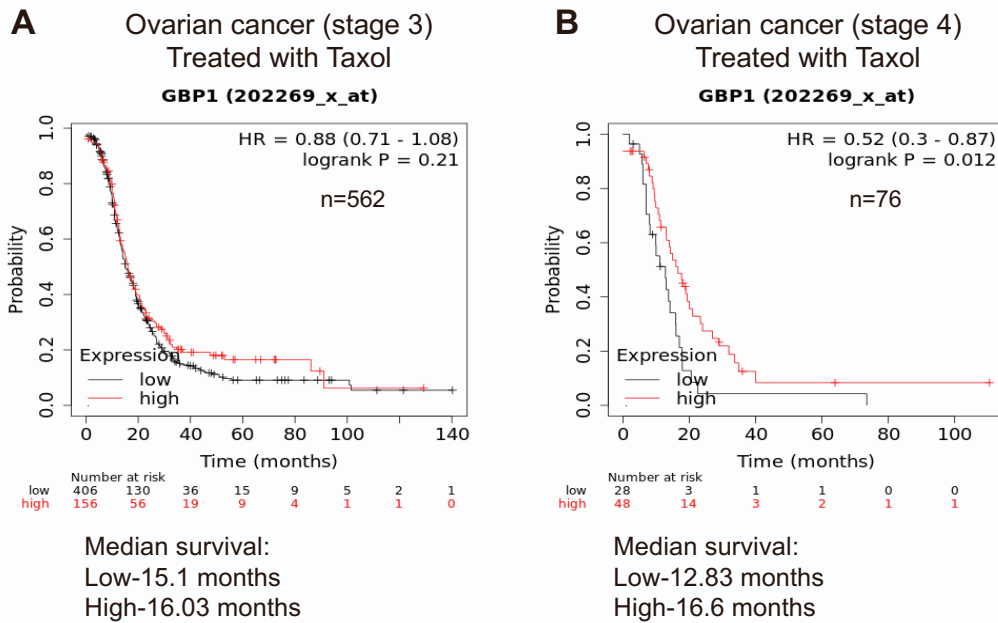
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Supplementary Figure 2



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 12 **Supplementary Figure 2: Pharmacological inhibition of GBP1 using small molecule**
 13 **inhibitor sensitize the OV cells for paclitaxel treatment. (A)** Proteasomal activity
 14 assessment of OC cells (ID8 and OVCAR8). Cells were treated with GBP1 inhibitor
 15 (SU093, 0.5 μ M) for 24 h. An equal amount of protein from each cell line was analyzed for
 16 its proteasomal activity using a proteasome substrate (Succ-LLVY-AMC) utilization-based
 17 assay. **(B)** Immunoblotting of total ubiquitinated proteins in OVCAR8 cells stably
 18 transduced with GBP1 overexpression (OV) or vector control (VC) treated with vehicle
 19 (DMSO) or SU093 (0.5 μ M) for 24h. **(C-D)** 100-300 transduced-OVCAR8 (VC, OV)
 20 cells/well were plated in 12 well tissue culture plates followed by treatment with Vehicle
 21 (DMSO), SU093 (0.5 μ M), Paclitaxel (10 nM) and SU093 (0.5 μ M) + Paclitaxel (10 nM)
 22 after 24 h and allowed to grow for 7-10 days. Colonies were stained using crystal violet and
 23 confluency was measured. Data are shown as mean \pm SD of triplicate samples.
 24 Significantly differences compared to respective controls was assessed by Student's t-test.

Supplementary Figure 3



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27 **Supplementary Figure 3: Relationship between GBP1 and chemotherapy response in**
 28 **advanced stages of ovarian cancer.** Kaplan-Meier plots (KMplot) for the probability of
 29 survival of ovarian cancer patients with GBP1 high (high) and GBP1 low (low) expression
 30 (mRNA gene chip data, Affy ID: 202269_x_at). KMplots were plotted using KM-plotter. **(A)**
 31 KMplot (n=562) of ovarian cancer patients with disease at stages 3 and treated with taxol
 32 with high and low GBP1 expression. **(B)** KMplot (n=76) of ovarian cancer patients with
 33 disease at stages 4 and treated with taxol with high and low GBP1 expression.

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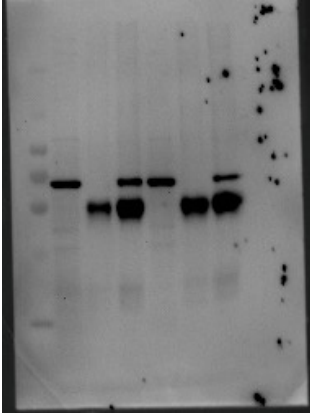
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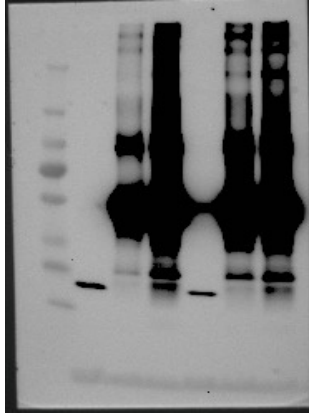
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Supplemental figures 4: Raw Blots related to Figure 1

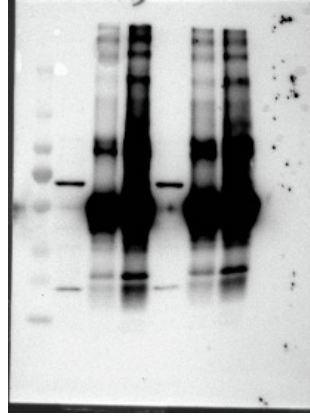
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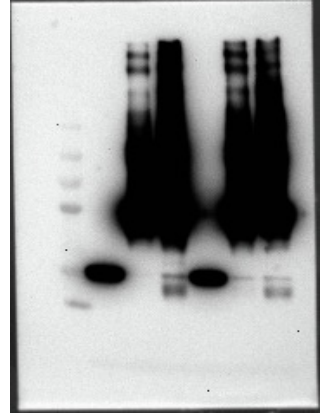
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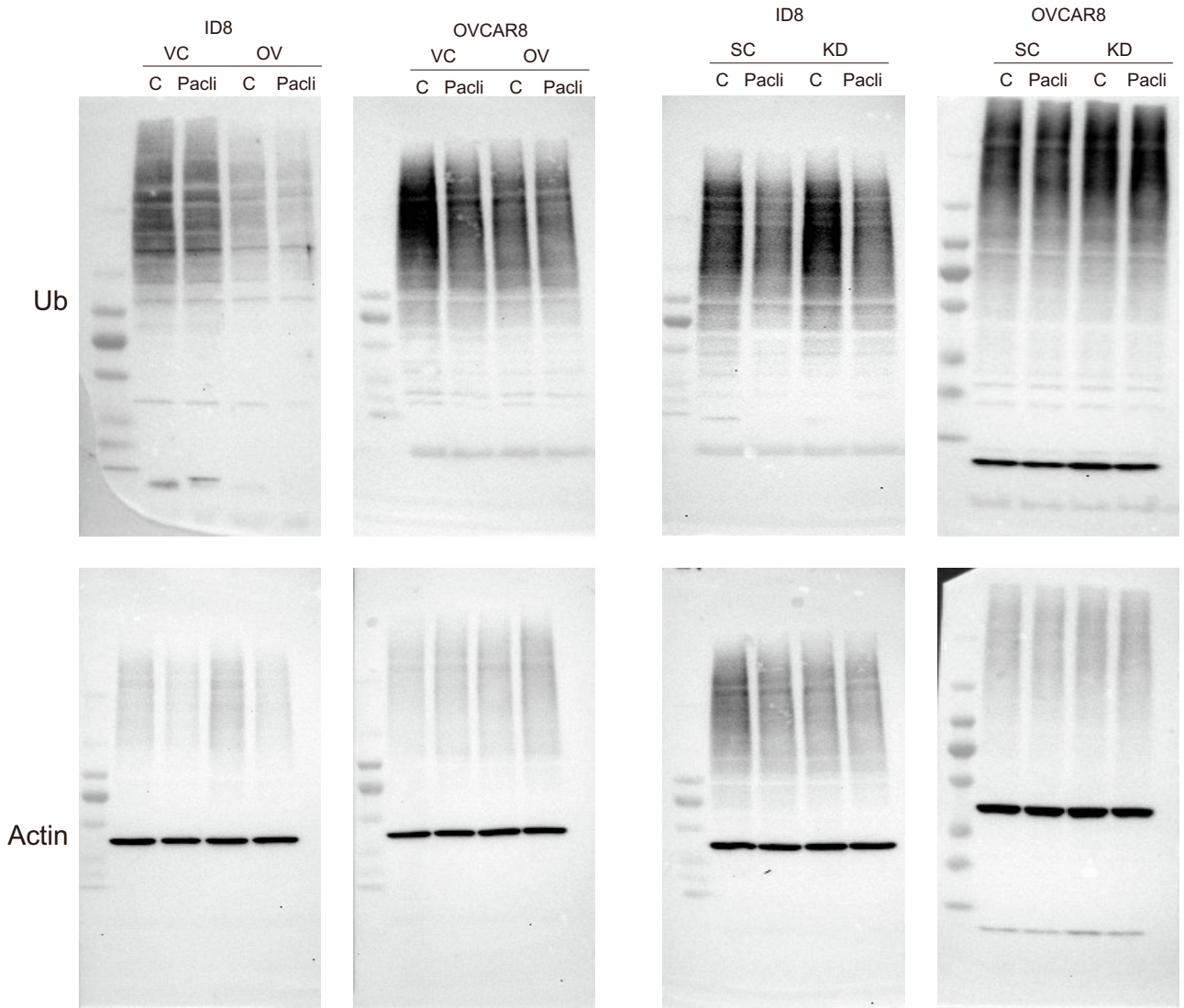


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Supplemental figures 5: Raw Blots related to Figure 3



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Supplemental figures 6: Raw Blots related to Figure 6