Human cells' emergency response could lead to better cancer treatment

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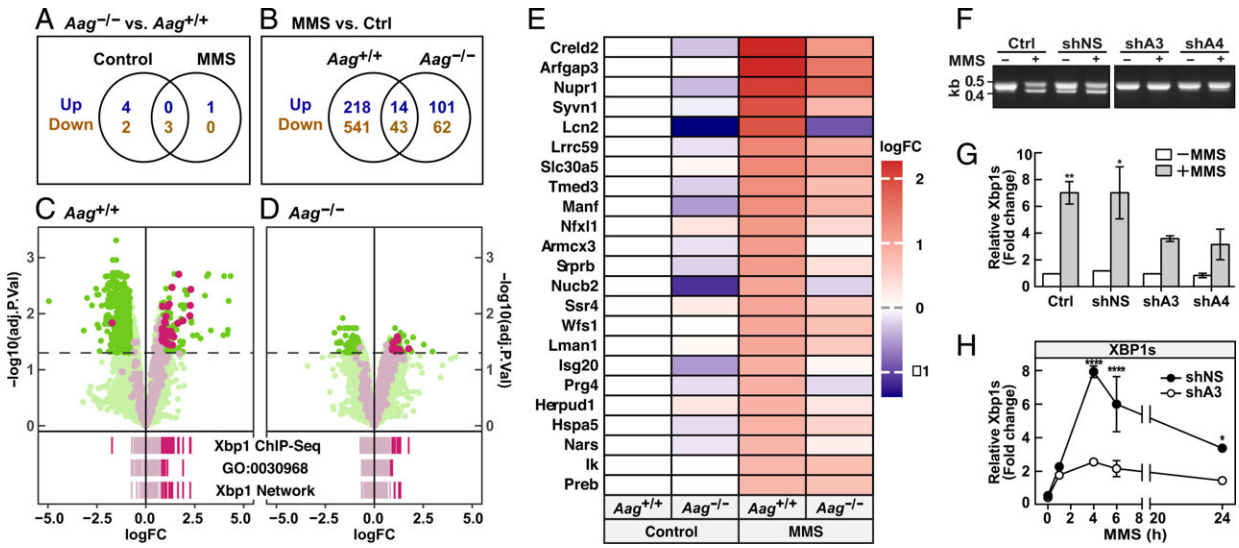

Aag modifies the transcriptional response to alkylation and is required for XBP1 splicing induced by alkylation. Wild-type and Aag-deficient mice (n = 3) were injected with MMS or solvent and euthanized 6 h later. Liver RNA was analyzed using oligonucleotide microarrays. (A and B) Venn diagrams indicate the number of differentially regulated probe sets (log_2 fold change [FC] of ≥1.75; FDR-adjusted P ≤ 0.05). Detailed gene expression data are given in Dataset 1. (C and D) Negative log_{10} adjusted P values (adj.P.Vals) are plotted against log_2 (FC). Dashed line, negative log_{10} (0.05). Xbp1 targets according to mouse liver ChIP-seq data (29) are highlighted in gray or in magenta where |log_2 (FC)| is ≥1.75 and p-FDR is ≤0.05. Rug plots below indicate the log_2 (FC) of genes annotated as Xbp1 targets (Xbp1 ChpSq), ER stress response (GO:0030968), or Xbp1 transcriptional correlation network (Xbp1 Netwrk); where |log_2 (FC)| of