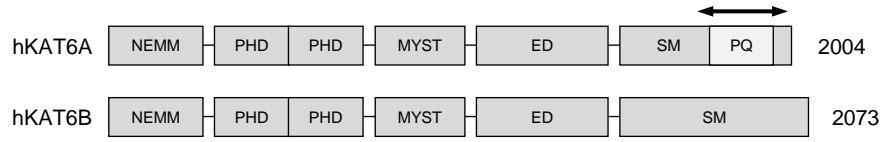
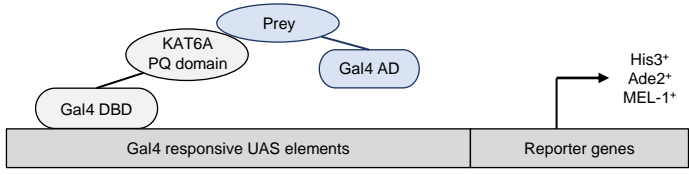
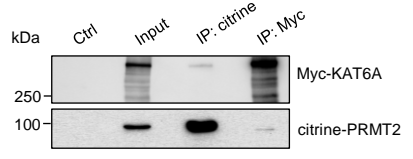
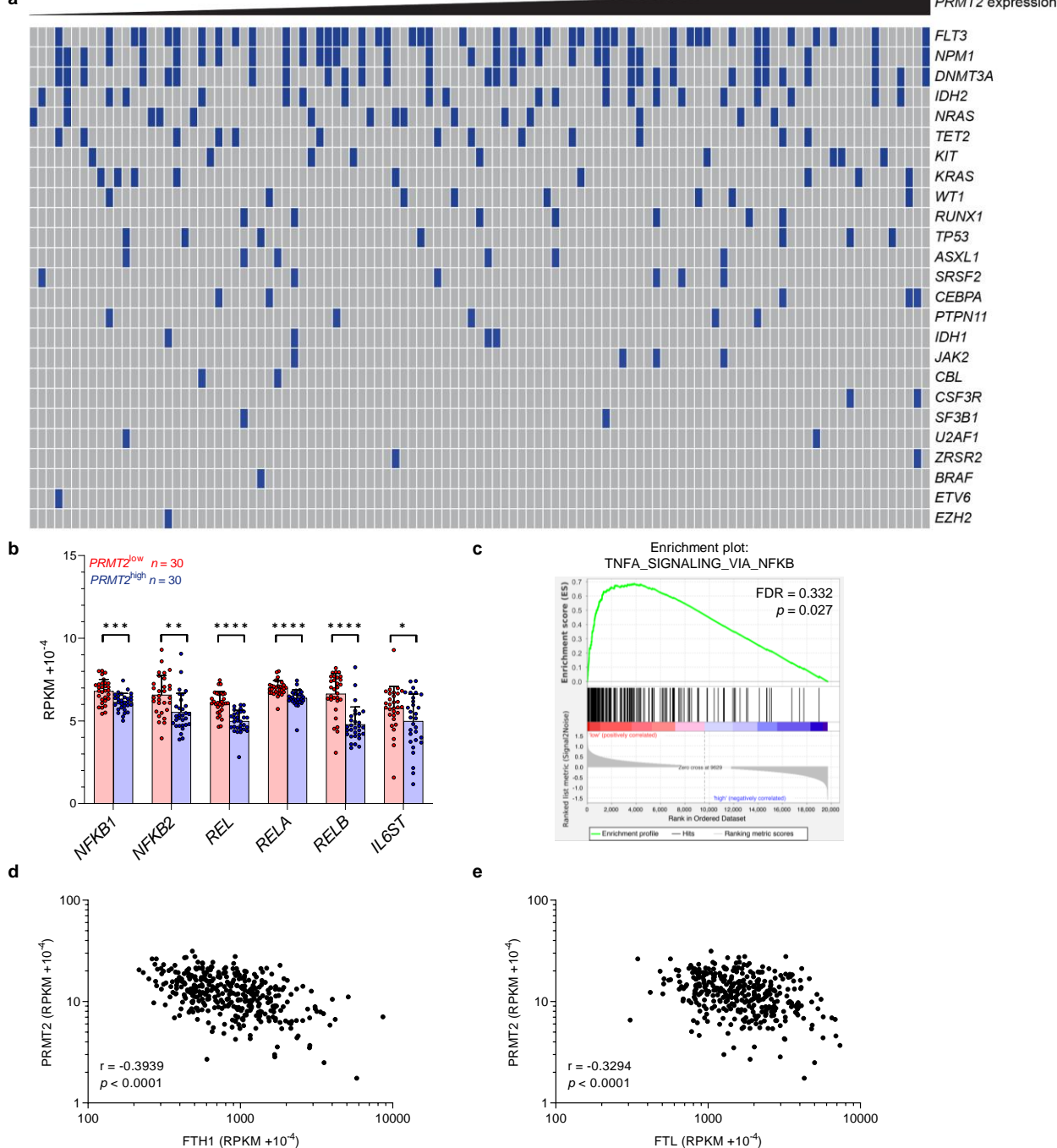
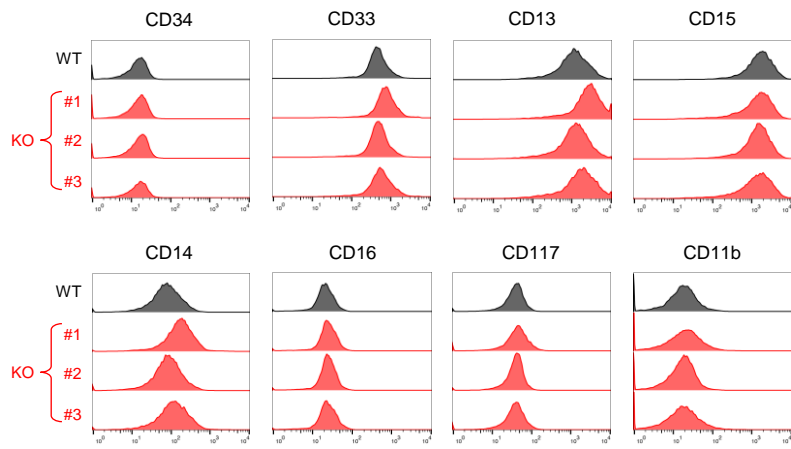


a**b****c**

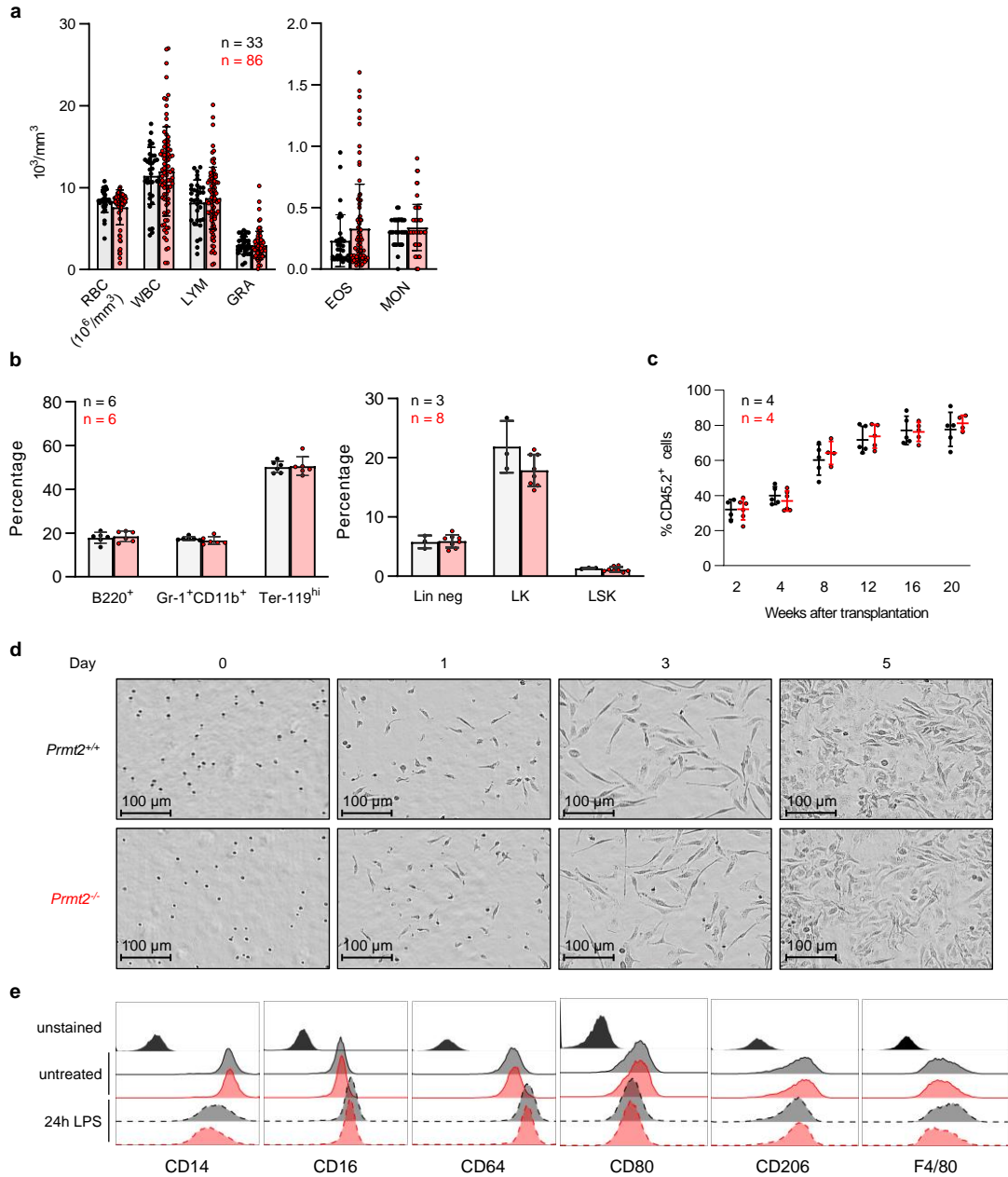
Supplementary Figure 1. (a) Schematic representation of human KAT6A and KAT6B proteins with amino acid lengths. (b) Schematic representation of the yeast two-hybrid system performed to identify PRMT2 as a partner of KAT6A. (c) Western Blot analysis after co-transfection followed by co-immunoprecipitation of either Myc-tagged KAT6A or citrine-tagged PRMT2 protein in HEK293 cells. The input fraction represents 5% of the total protein extract. The presented blot is representative of three independent experiments.



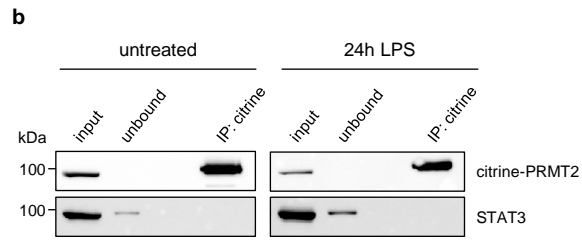
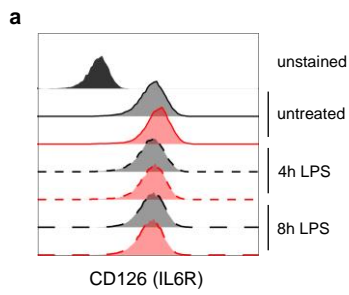
Supplementary Figure 2. (a) Mutation profile of the 105 AML patient exomes from the *Leucegene Project* depending on their *PRMT2* expression for a subset of frequently mutated genes in AML. Blue: mutated gene; grey: non mutated gene. (b) Box plots showing NF- κ B-related gene expression of *PRMT2*^{low} and *PRMT2*^{high} patients in the *BeatAML* ($n = 30$ in each group) cohort. Error bars represent mean \pm SD. Multiple unpaired t tests with p values indicated in the graphs; * $p < 0.05$; ** $p < 0.01$; **** $p < 0.0001$ (c) GSEA plot for the “TNFA signaling via NFKB” hallmark on the *BeatAML* cohort with FDR and nominal p indicated. (d-e) Pearson’s correlations of *PRMT2* expression with *FTH1* (d) and *FTL* expression (e) within the *Leucegene Project* cohort ($n = 371$).



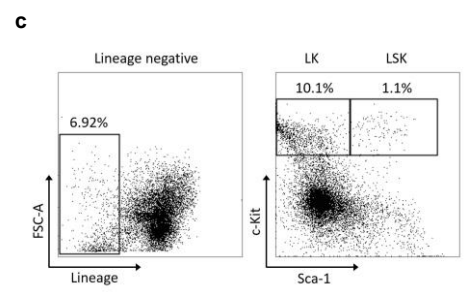
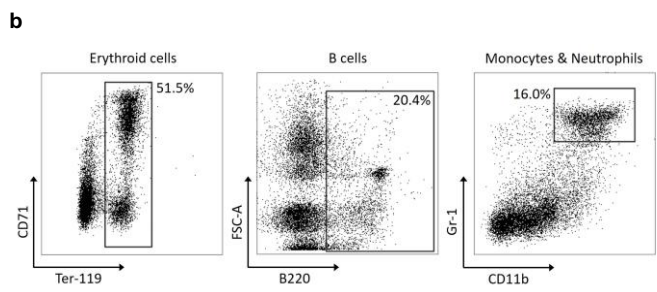
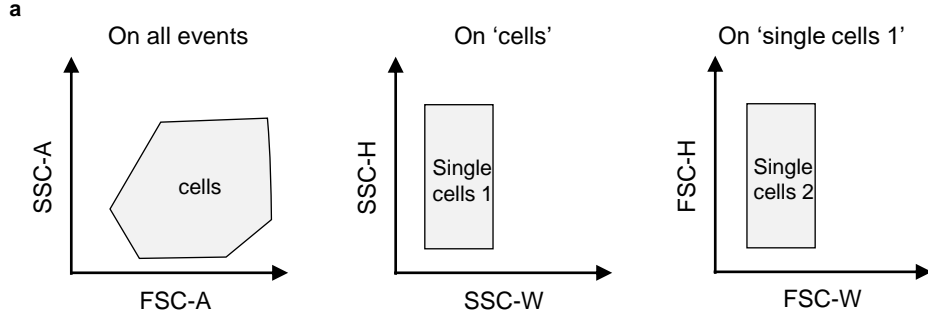
Supplementary Figure 3. Flow cytometry analysis showing fluorescence intensity for the CD34, CD33, CD13, CD15, CD14, CD16, CD117, and CD11b surface markers on WT HL-60 and 3 different clones of *PRMT2*^{KO} cells. Cells are considered as positive if the mean fluorescence intensity is above 10². The presented graphs are representative of three independent experiments.



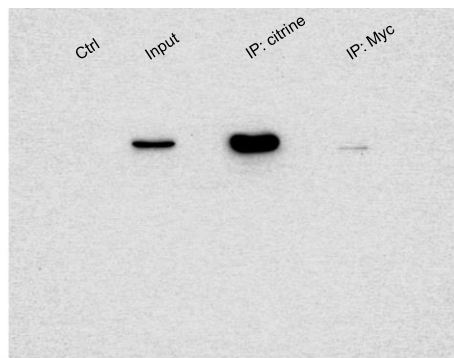
Supplementary Figure 4. (a) Blood cell counts in *Prmt2*^{-/-} or control (*Prmt2*^{+/+}) mice. RBC: red blood cells; WBC: white blood cells; LYM: lymphocytes; GRA: granulocytes; EOS: eosinophiles; MON: monocytes. (b) Flow cytometry analysis on BM showing percentages of B cells (B220⁺), monocytes/neutrophils (Gr-1⁺CD11b⁺), and erythroid cells (Ter-119^{hi}) (left) and lineage negative, LK and LSK (right). (c) Flow cytometry analysis of hematopoietic reconstitution of *Prmt2*^{-/-} or control BM cells (CD45.2⁺) transplanted into recipient mice (CD45.1⁺) in competition with recipient's cells (1:1 ratio). Number of mice in each group are shown on graphs. All presented data (a-c) are expressed as mean \pm SD. (d) Morphological analysis of monocytes during differentiation into macrophages. Images from phase-contrast microscopy using an Incucyte[®] S3 Live-Cell Analysis System at magnification x20. (e) Flow cytometry analysis for CD14, CD16, CD64, CD80, CD206, and F4/80 surface markers from unstimulated or 24h LPS-stimulated *Prmt2*^{+/+} (grey) or *Prmt2*^{-/-} BMDMs (red). Unstained cells are shown in black as negative control. Presented graphs are representative figures from three independent experiments.



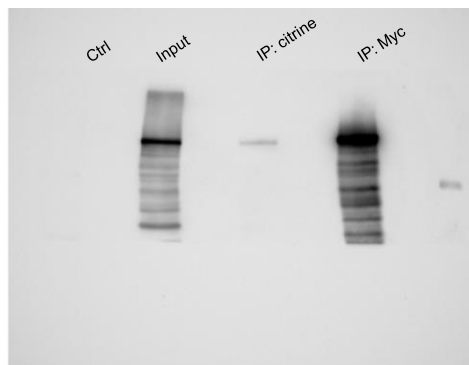
Supplementary Figure 5. (a) Flow cytometry analysis for the IL6 receptor (CD126) from unstimulated or LPS-stimulated WT (grey) or *PRMT2*^{KO} HL-60 cells (red). Unstained cells are shown in black as negative control. (b) Western Blot analysis of STAT3 after immunoprecipitation of citrine-PRMT2 unstimulated or 24h LPS-stimulated HL-60 cells. The input fraction represents 5% of the total protein extract. The presented blot is representative of three independent experiments.



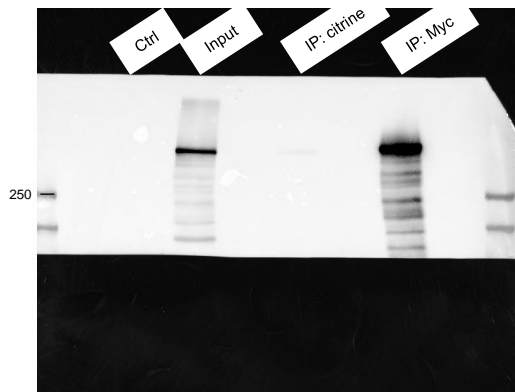
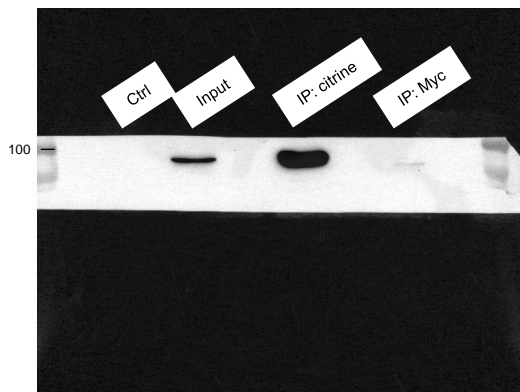
Supplementary Figure 6. (a) Gating strategy for all the presented flow cytometry data, from all events. (b-c) Gating strategies for Supplementary Figure 4b, from the 'single cells 2' gate.

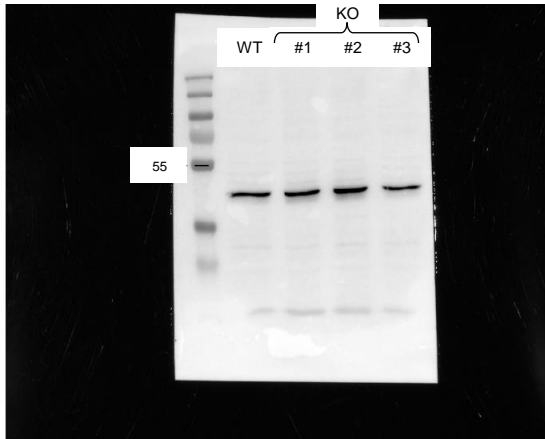


Anti-GFP

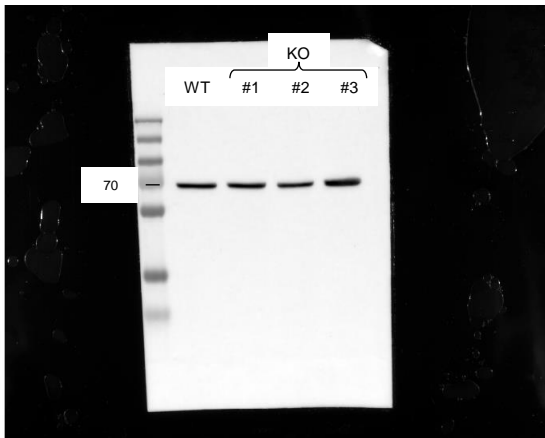


Anti-MYC

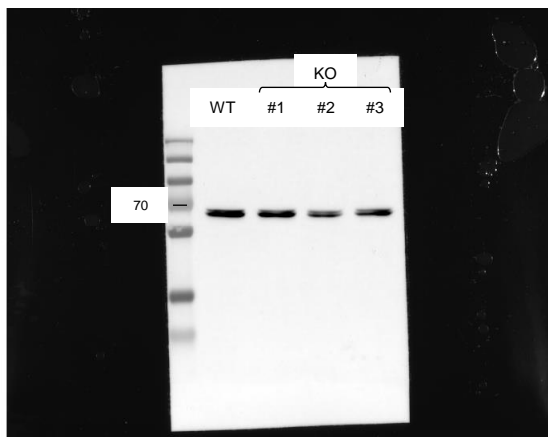




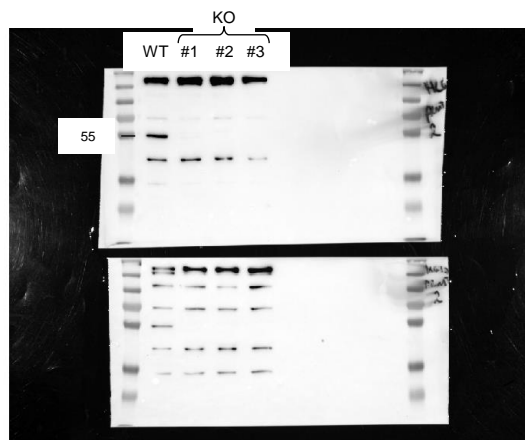
Anti-PRMT1



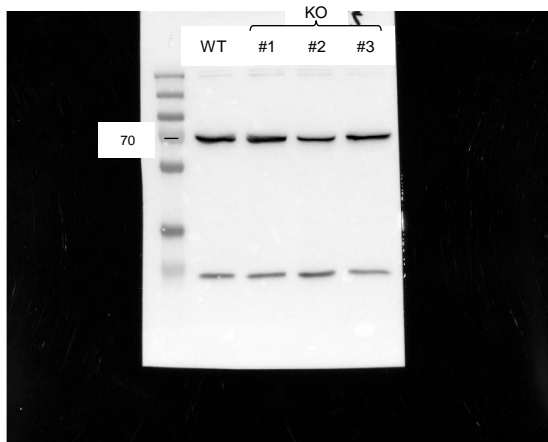
Anti-PRMT3



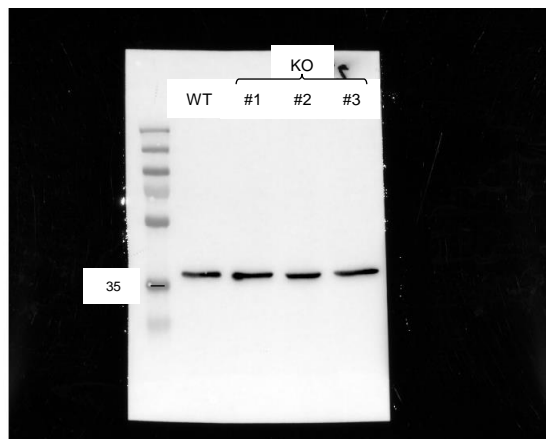
Anti-CARM1



Anti-PRMT2

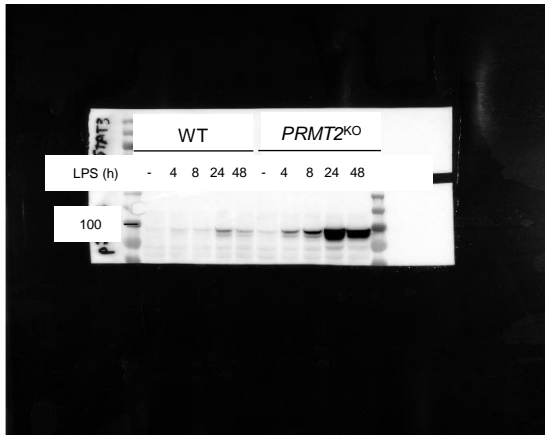


Anti-PRMT5

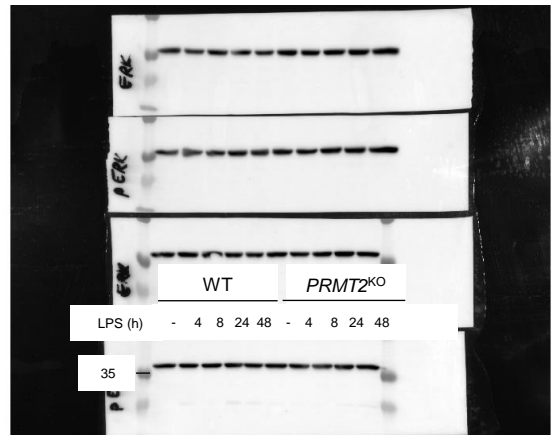


Anti-GAPDH

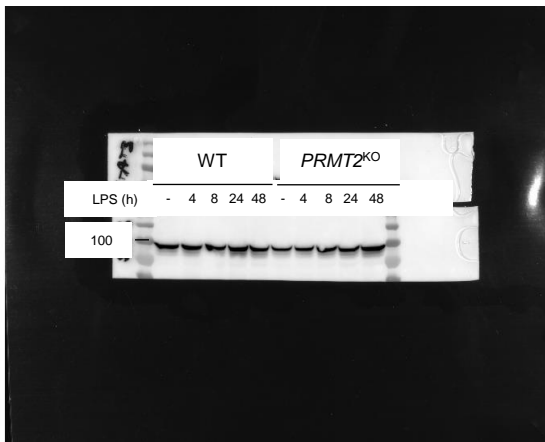
Full unedited blot for Figure 5c



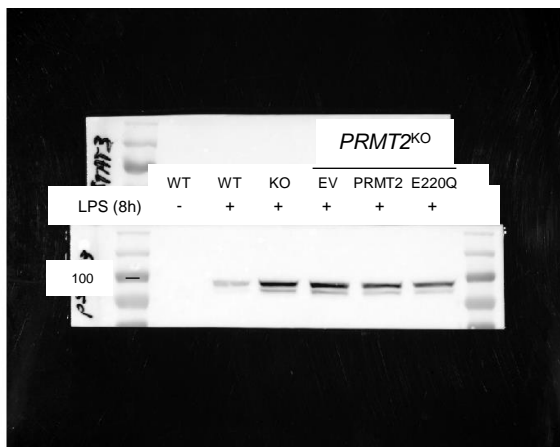
Anti-pSTAT3



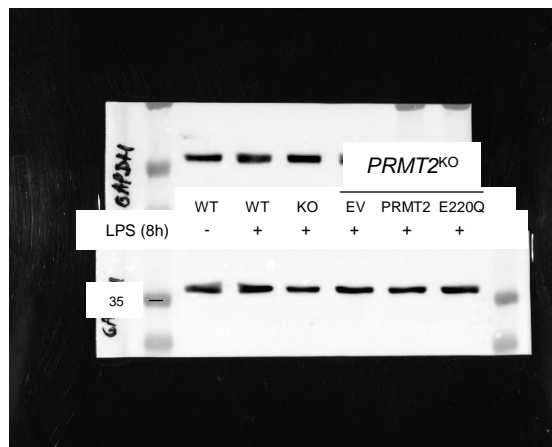
Anti-GAPDH



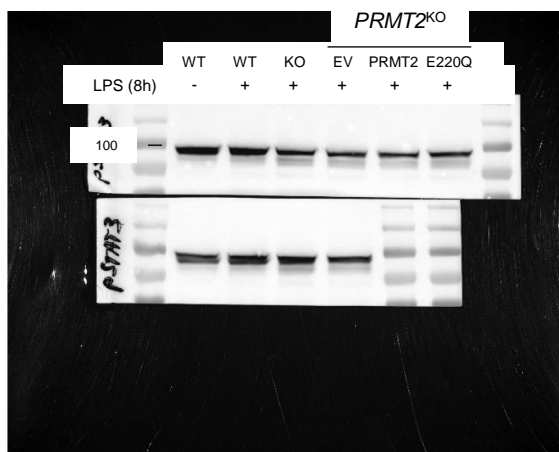
Anti-STAT3



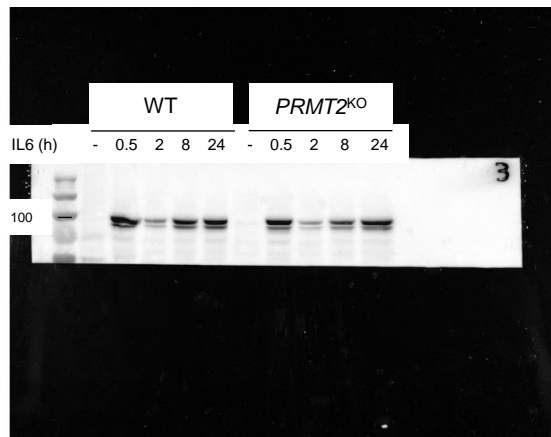
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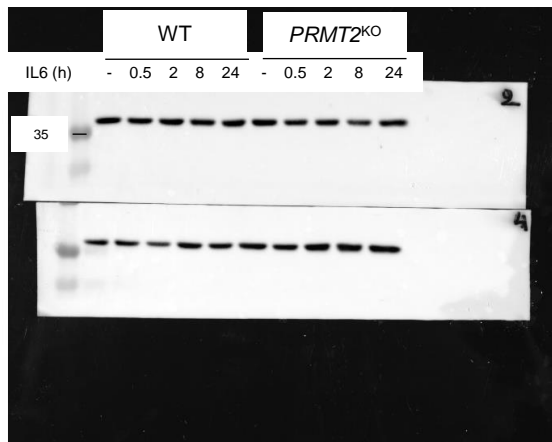
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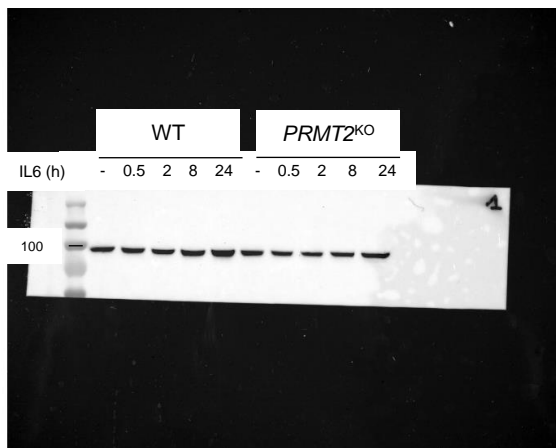
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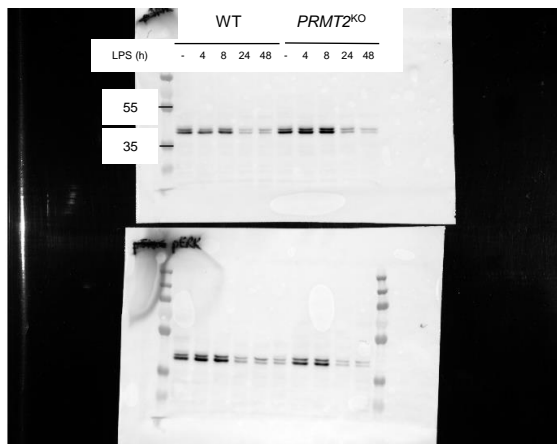
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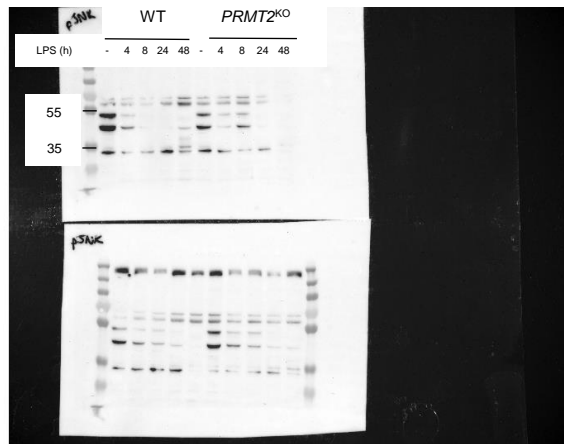
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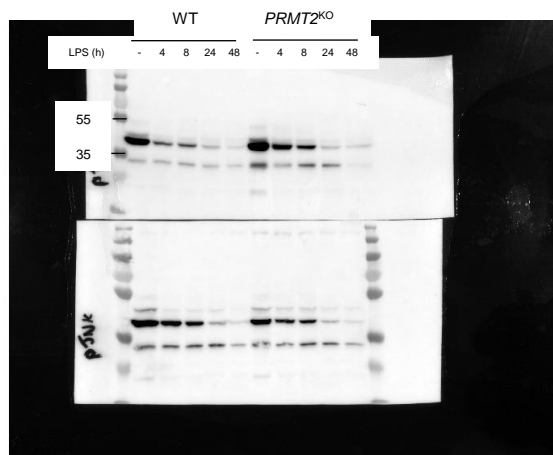
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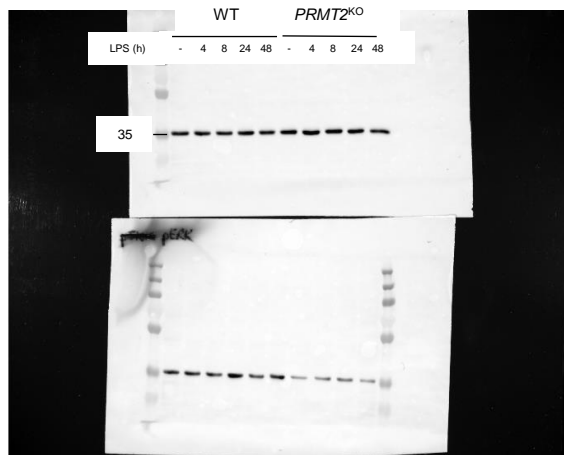
Anti-p-ERK1/2



Anti-p-SAPK/JNK

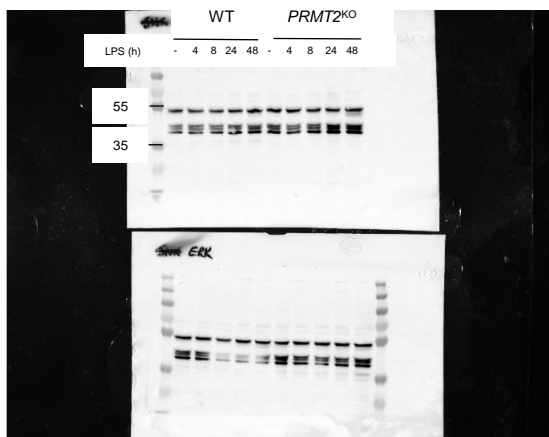


Anti-p-P38

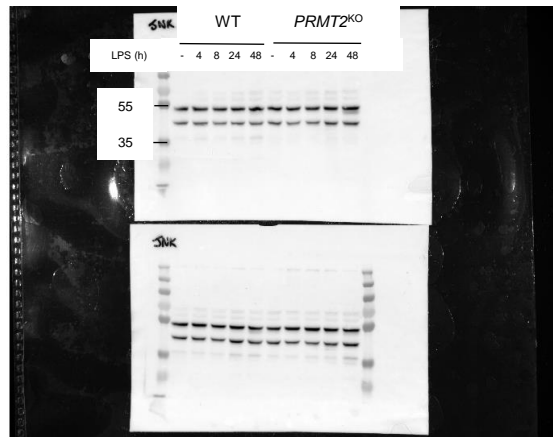


Anti-GAPDH

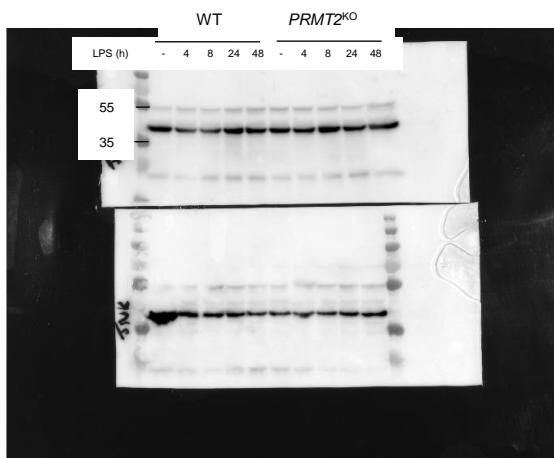
Full unedited blot for Figure 6c



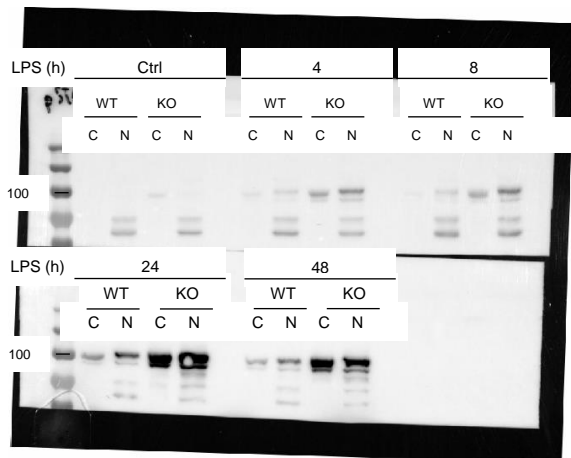
Anti-ERK1/2



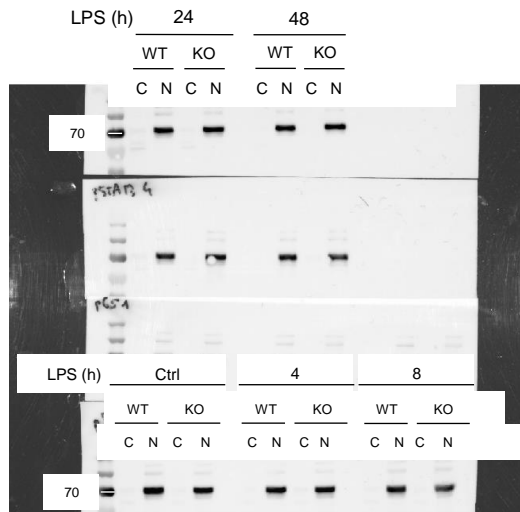
Anti-SAPK/JNK



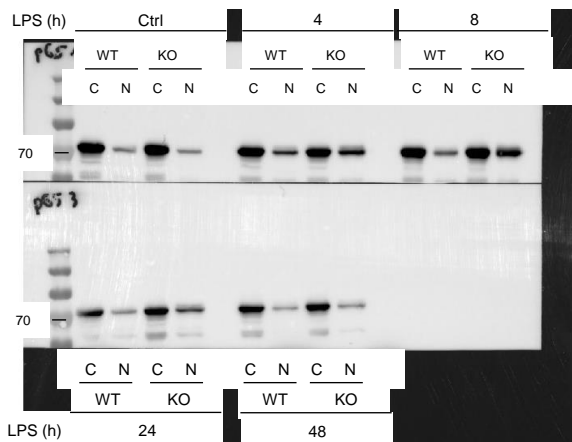
Anti-P38



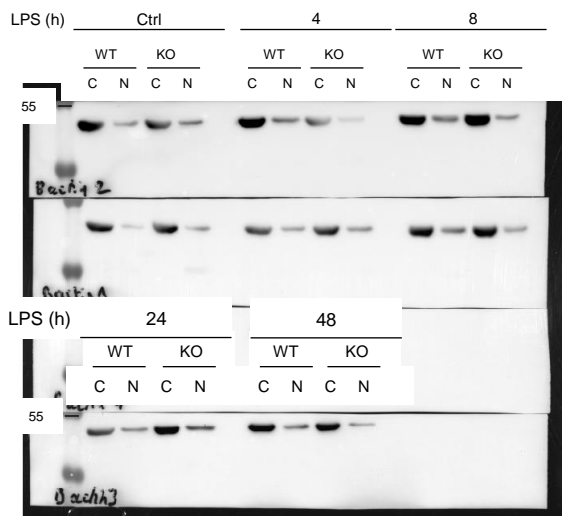
Anti-pSTAT3



Anti-SP1



Anti-NFKB P65



Anti-ACTB

