

1 Supplemental Figures and legends

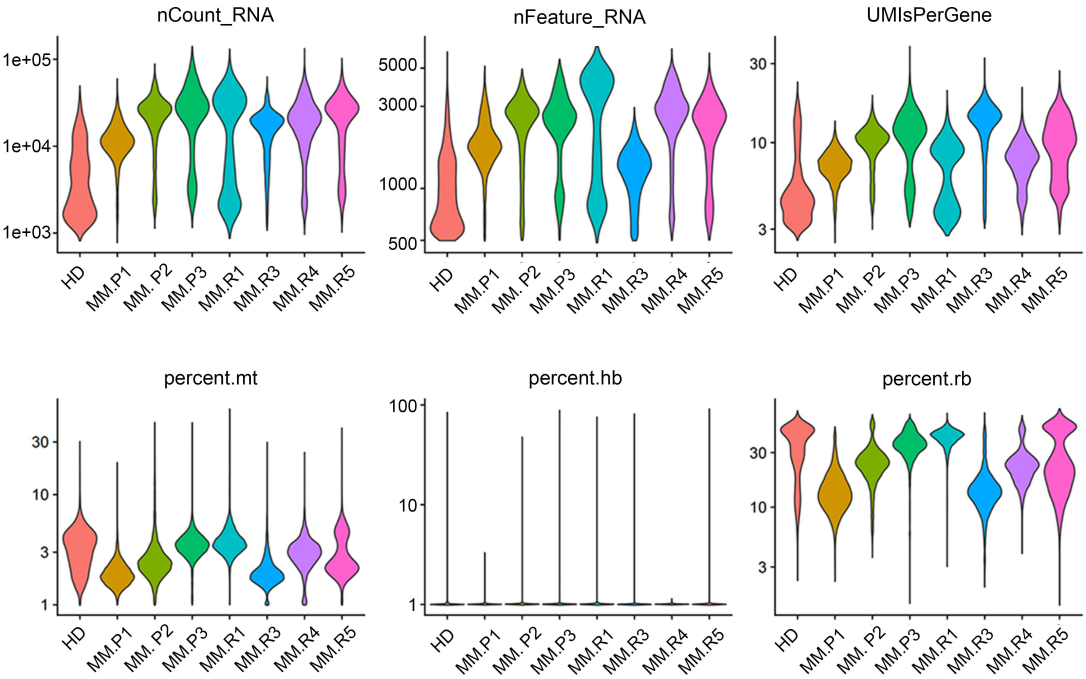


Figure S1

2

3 Figure S1 Quality control results of single-cell data.

4 Ncount_rna is the total number of mRNA molecules. Nfeature_rna is the number of
5 genes. Umispergene is the median of UMI data detected in each cell. Percent.mt is the
6 proportion of genes in mitochondria. Percent.hb is the proportion of erythrocyte gene
7 expression. Percent.rb is the proportion of ribosomal gene expression.

8

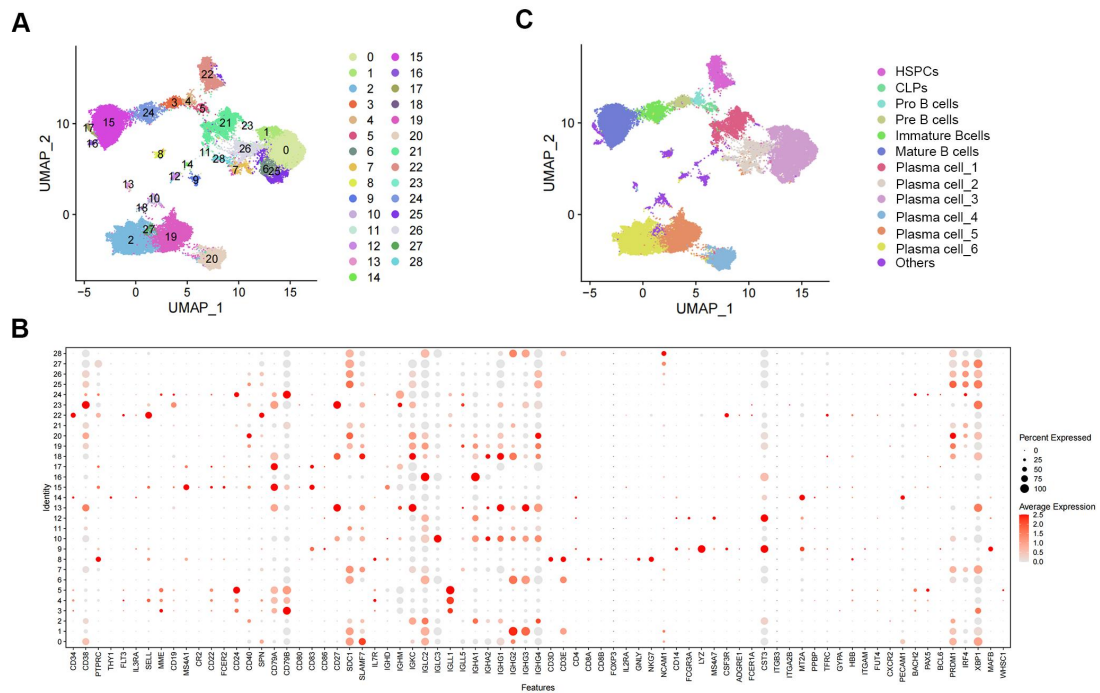


Figure S2

9

10 Figure S2 Cell clusters and annotations.

11 (A-B) UMAP representation of single-cell gene expression showing 29 identified cell
 12 clusters and 10 identified retinal cell types. Single cells were color-coded by cluster
 13 annotation. (C) Dot plot showing expression of each celltype characteristic genes.

14

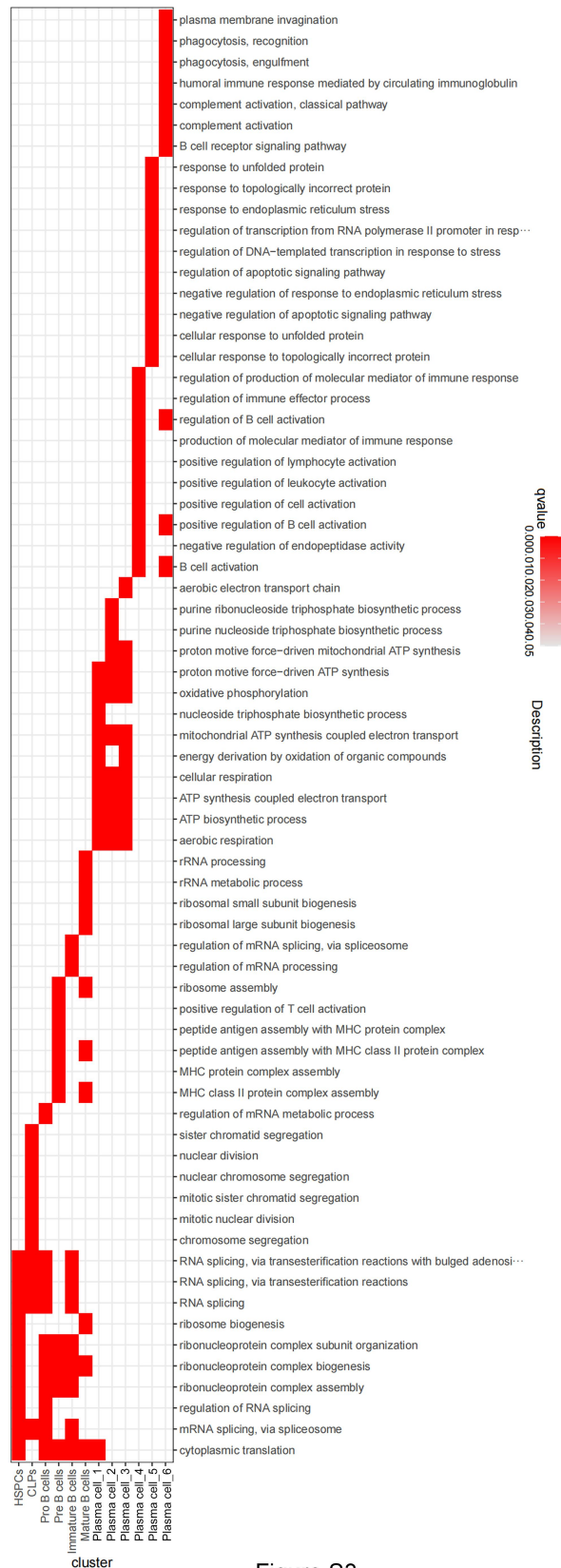


Figure S3

Figure S3 GO enrichment of cell clusters.

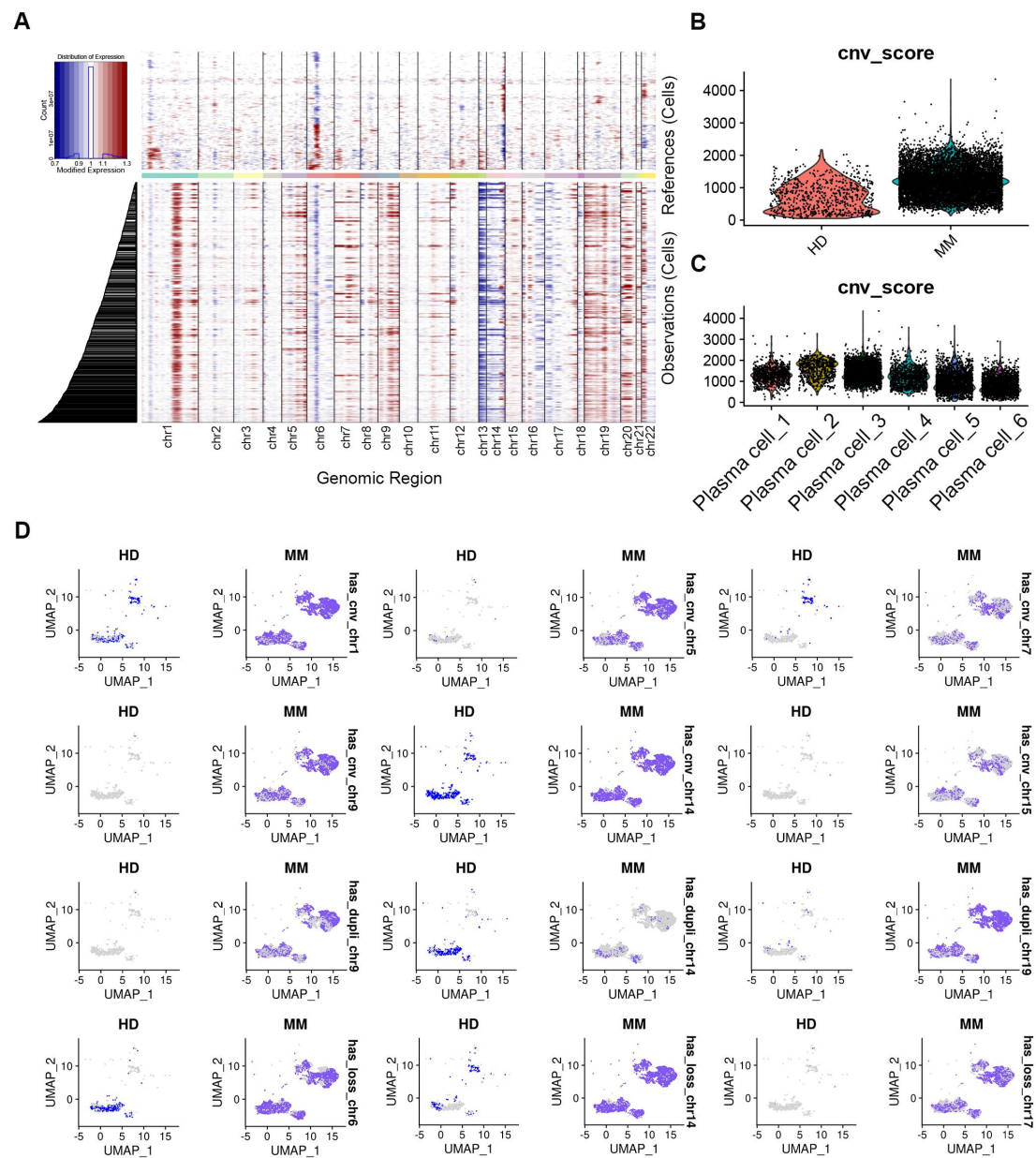


Figure S4

Figure S4 Plasma cells CNV analysis.

(A) CNV observation of a genomic region. (B) CNV score of HD and MM. (C) CNV score of six plasma cell subsets. (D) UMAP showing CNV changes between HD and MM.

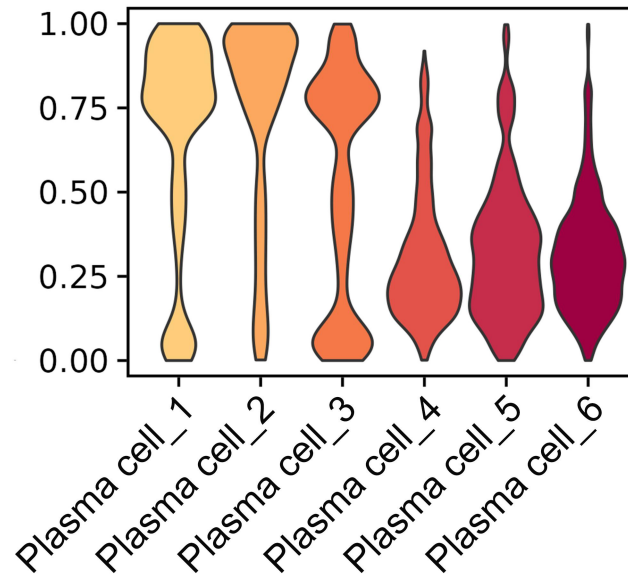


Figure S5

Figure S5 Differentiation potential of plasma cell subpopulations.

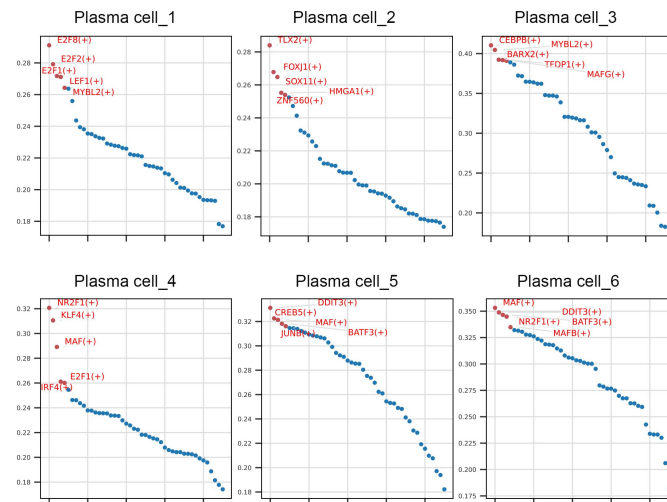


Figure S6

Figure S6 Transcription factors expression of plasma cell subpopulations.

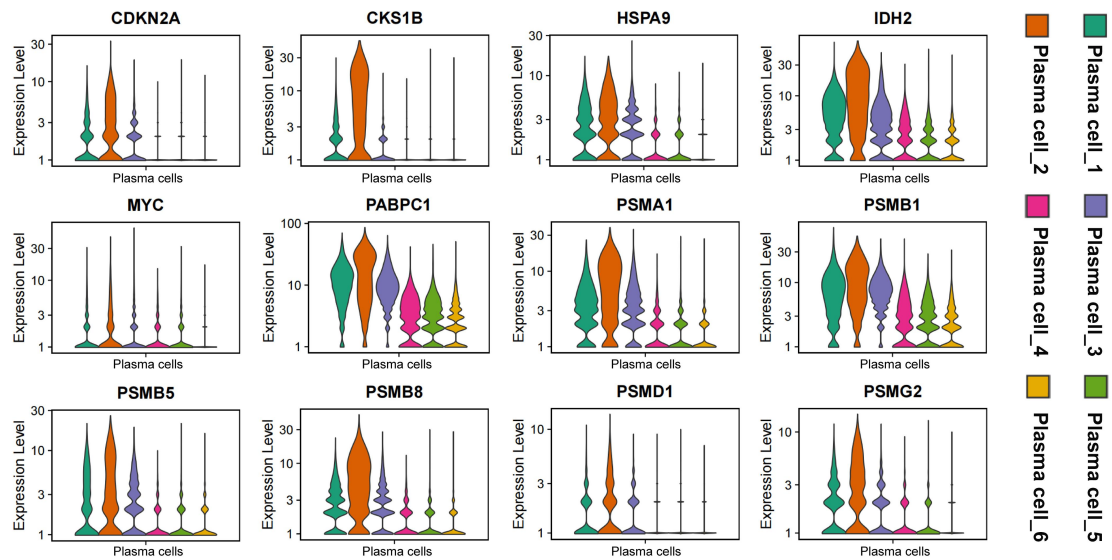


Figure S7

Figure S7 Expression of multiple high-frequency mutated genes in various subpopulations of plasma cells.

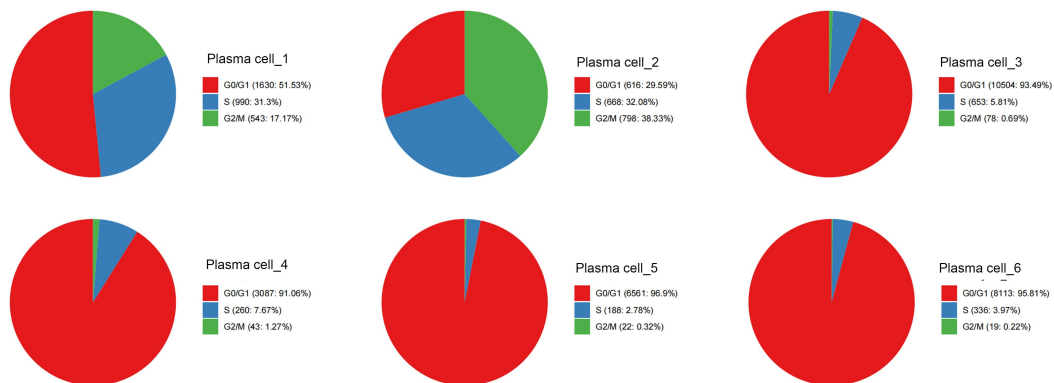


Figure S8

Figure S8 Seurat analysis of the cell cycle distribution in each cell subpopulation.

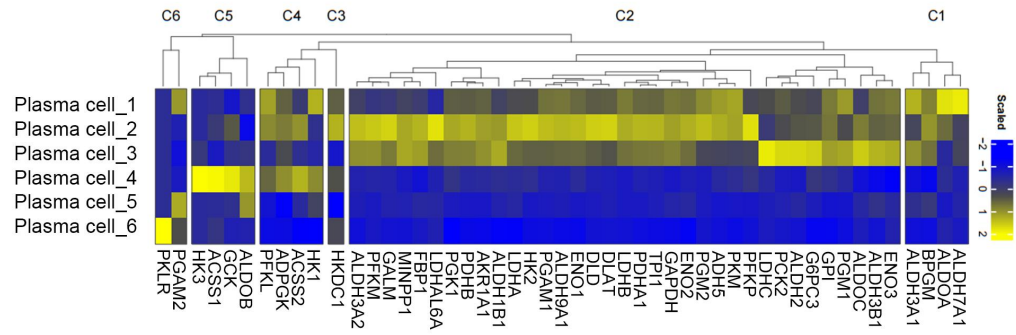


Figure S9

37

38 Figure S9 Glucose metabolism-related gene expression in various subpopulations of
 39 plasma cells.

40

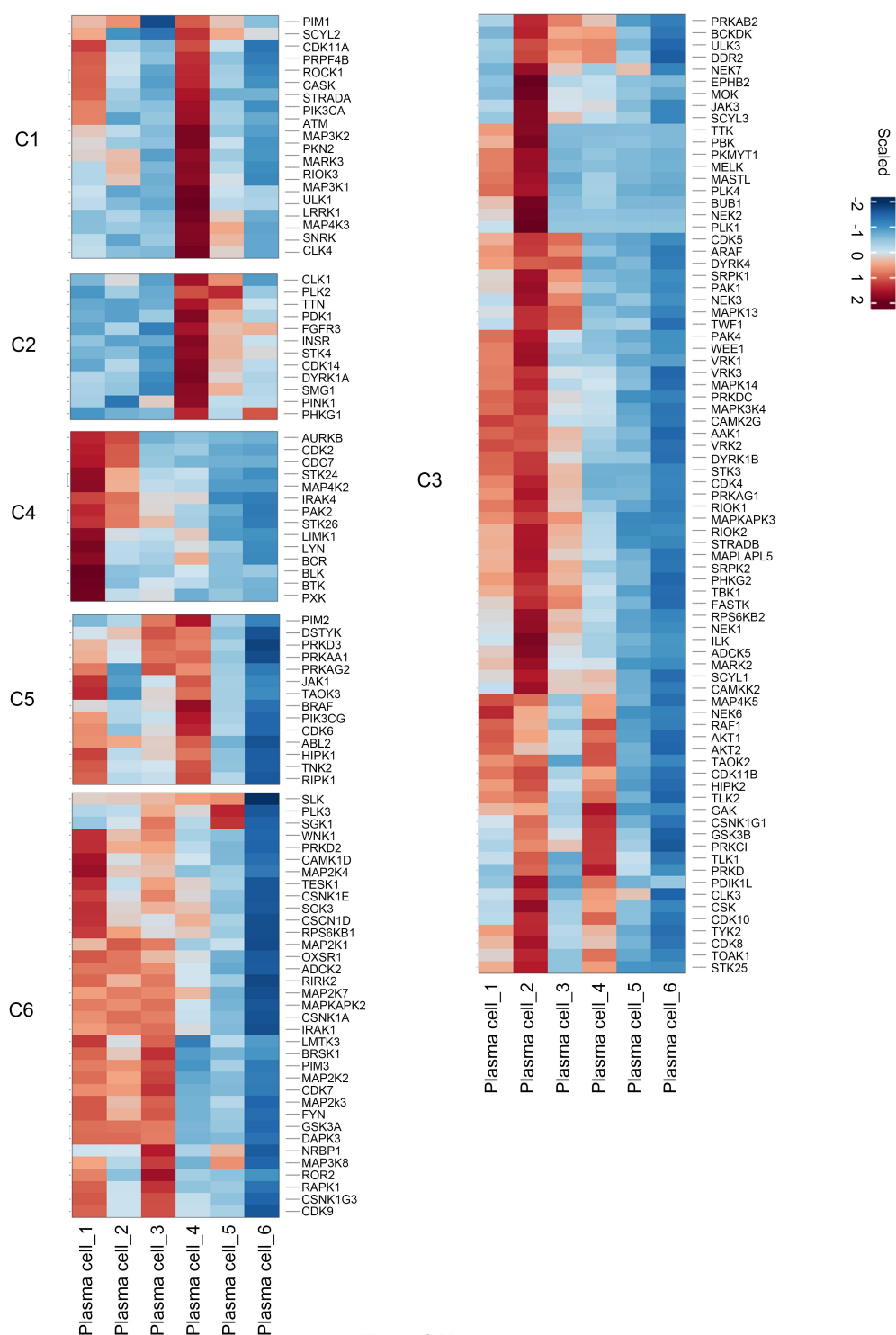


Figure S10

Figure S10 Characteristic expressed kinases in various subpopulations of plasma cells.

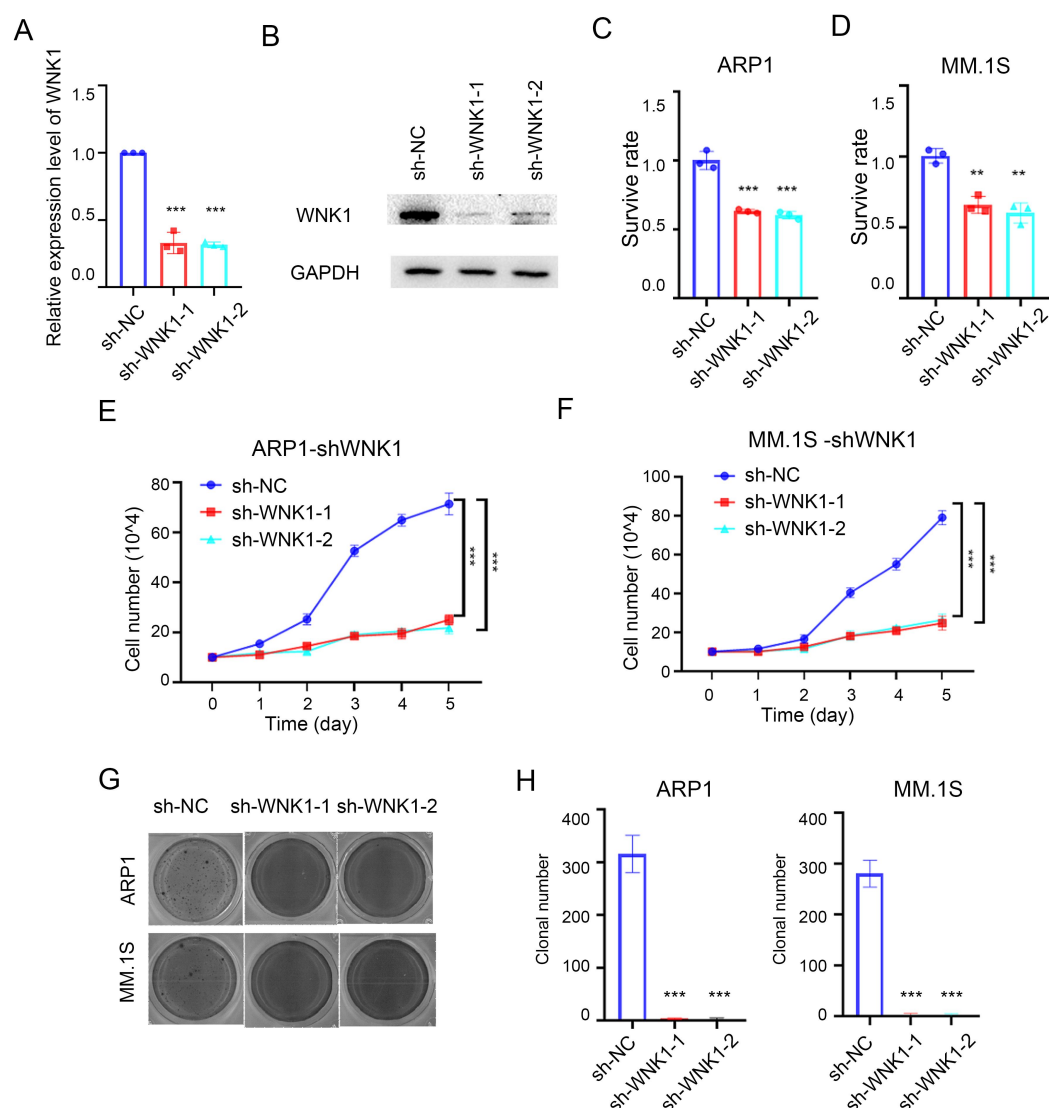


Figure S11

45

46 Figure S11 Knockdown of WNK1 significantly inhibited MM cell viability and
47 proliferation.

48 (A-B) The shRNA virus targeting WNK1 was used to infect ARP1 and MM.1S cells,
49 and cell activity was detected by CCK8. (C) ARP1 and MM.1s cells were infected
50 with WNK1 shRNA virus, and cell proliferation was detected by manual counting. (D)
51 ARP1 and MM.1s cells were infected with WNK1 shRNA virus, and the clonogenic
52 ability of cells was detected by soft agar plate clonogenic assay. Statistical analyses of
53 n=3 independent experiments were assessed. Results are shown as mean $\pm$ SD.

54 * $p<0.05$, ** $p<0.01$, *** $p<0.001$.

55

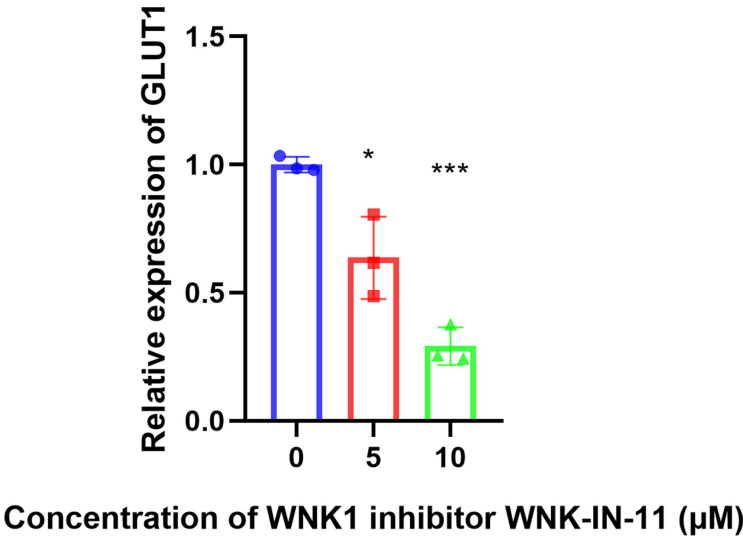


Figure S12

56

57 Figure S12 Gray quantitative analysis of Figure 5H

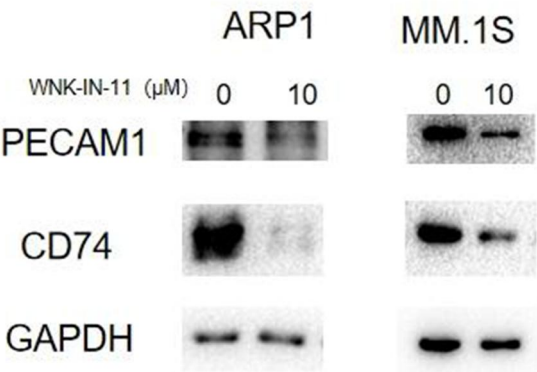
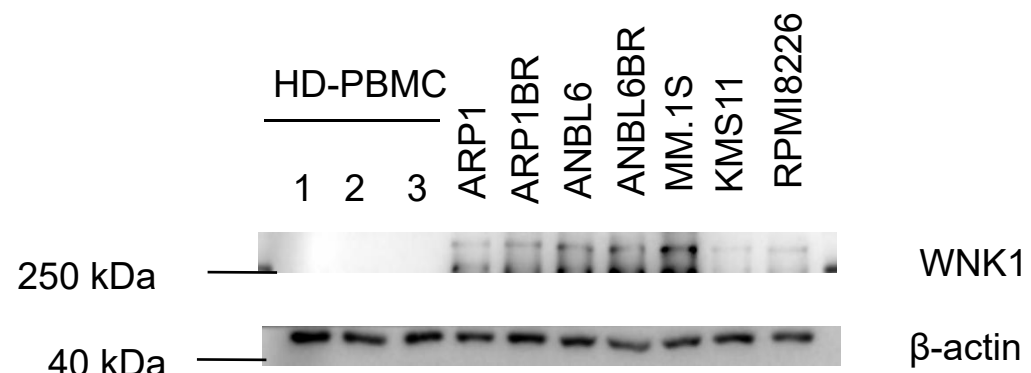
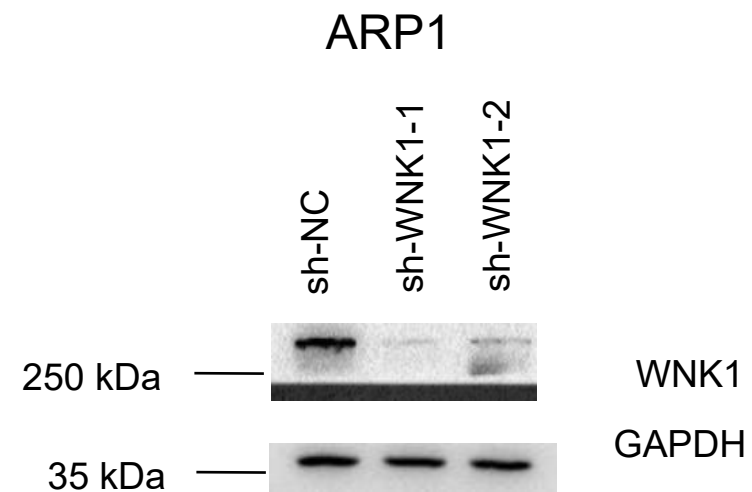
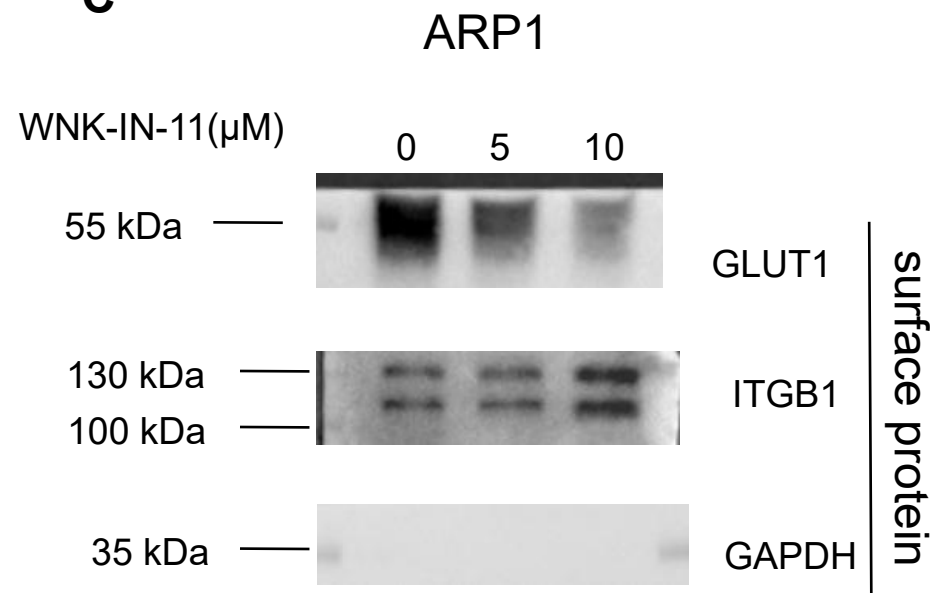
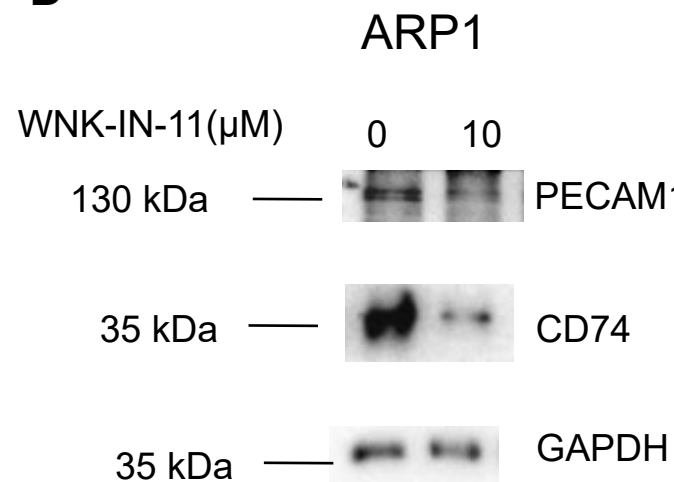


Figure S13

58

59 Figure S13 WNK-IN-11 inhibits the expression of signaling molecules PECAM1 and

A**B****C****D****E**