

Description of Additional Supplementary Information

File Name: Supplementary Data 1.

Description: CLL and normal B cell samples used in this study from the Blueprint Initiative.

File Name: Supplementary Data 2.

Description: Transcription factor de novo motif enrichment between CLL and germinal center B cells at super-enhancers.

File Name: Supplementary Data 3.

Description: Transcription factor de novo motif enrichment between CLL and naïve B cells at super-enhancers. Related to Figure 1e.

File Name: Supplementary Data 4.

Description: Genomic coordinates of regions targeted with bisulfite sequencing capture assay.

File Name: Supplementary Data 5.

Description: Standard performance metrics for normal B and CLL patient samples profiled with targeted bisulfite sequencing capture assay.

File Name: Supplementary Data 6.

Description: Differentially methylated regions (DMRs; absolute change in DNAm > 0.3 and Fisher's exact test FDR < 0.05 ; see Methods) between CLL (both IGHV mutated and unmutated) and normal B samples.

File Name: Supplementary Data 7.

Description: Differentially methylated regions (DMRs; absolute change in DNAm > 0.3 and Fisher's exact test FDR < 0.05 ; see Methods) between IGHV mutated CLL and normal B samples.

File Name: Supplementary Data 8.

Description: Differentially methylated regions (DMRs; absolute change in DNAm > 0.3 and Fisher's exact test FDR < 0.05 ; see Methods) between IGHV unmutated CLL and normal B samples.

File Name: Supplementary Data 9.

Description: Gene sets and gene ontology enrichment for CLL hypomethylated super-enhancers. Related to Supplementary Figure 2g.

File Name: Supplementary Data 10.

Description: Gene sets (CGP) enriched in closest genes (average distance of 496 bp) to genomic segments that gain H3K27ac from normal B cells to CLL (hypergeometric test BH-FDR < 0.05). Related to Supplementary Figure 4e.

File Name: Supplementary Data 11.

Description: Primers and adapters used in MscRRBS library construction.

File Name: Supplementary Data 12.

Description: List of cell barcodes used in MscRRBS library construction.