

## **Description of Additional Supplementary Files**

### **File Name: Supplementary Movie 1**

Description: Movie shows culture of GC B cells alone from the time of plating to 132 hours after. Scale bar, 50 $\mu$ M.

### **File Name: Supplementary Movie 2**

Description: Movie shows culture of YK6 cells alone from the time of plating to 132 hours after. Scale bar, 50 $\mu$ M.

### **File Name: Supplementary Movie 3**

Description: Movie shows culture of YK6 + GC B cells from the time of plating to 132 hours after. Scale bar, 50 $\mu$ M.

### **File Name: Supplementary Movie 4**

Description: Movie shows culture of YK6-CD40Lg + GC B cells from the time of plating to 132 hours after. Scale bar, 50 $\mu$ M.

### **File Name: Supplementary Movie 5**

Description: Movie shows culture of YK6-CD40Lg-IL21 + GC B cells from the time of plating to 132 hours after. Scale bar, 50 $\mu$ M.

**File Name: Supplementary Data 1**

Description: Enrichment scores based on relative read counts of barcoded expression constructs for transcription factors or their mutant versions in GC B cells co-transduced with *BCL2* over 4 different timepoints (n=3).

**File Name: Supplementary Data 2**

Description: CRISPR gene scores shown for GC B cells transduced with *BCL2* & *BCL6* (n=3), *BCL2* & *MYC* (n=1) and cell line HBL1 (n=1) with the CRISPR library targeting 692 genes.

**File Name: Supplementary Data 3**

Description: Protein altering variants identified by MUTEK2 using the matched, pre-transduced, germinal center B cells as the normal control.