

Description of Additional Supplementary Files

Title: Supplementary Data 1

Description: Library information for "Mini-Human, 1st column is the gene symbol, 2nd column is its ensemble ID, 3rd column indicates how many guides are designed, for genes that has a guides number less than 4, a stuffer non-coding pseudo-guide is added. Column 4 is the oligo information for pooled oligo synthesis, column 5 to 8 contain guide information for each guide position.

Title: Supplementary Data 2

Description: Library information for AsCpf1 based monocistronic benchmark library.

Title: Supplementary Data 3

Description: Library information for SpCas9 based benchmark library

Title: Supplementary Data 4

Description: Library information for AsCpf1 based multiplexed benchmark library

Title: Supplementary Data 5

Description: Primers used for T7E1 assays