

## Description of Additional Supplementary Files

**File Name:** Supplementary Data 1

**Description:** Protein and Reporter sequences in this study.

**File Name:** Supplementary Data 2

**Description:** Primers, targets and corresponding amplicon used for evaluating editing efficiency at endogenous loci in this study.

**File Name:** Supplementary Data 3

**Description:** Primers and corresponding amplicons for Cas9-dependent off-target sites.

**File Name:** Supplementary Data 4

**Description:** Primers, target and AAV vectors for in vivo editing study.