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## **Supplemental Information**

**Reconstructed glycosylase base editors**

**GBE2.0 with enhanced C-to-G base**

**editing efficiency and purity**

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## **Supplementary Figure Legends**

Supplementary Figure 1. The C-to-G/A/T base editing efficiency of APOBEC-nCas9-Ung and APOBEC-nCas9-Ung1 from 17 loci (gRNA for C6 sites) in HEK293T cells

Supplementary Figure 2. The C-to-G/A/T base editing efficiency of APOBEC-nCas9-Ung1 and APOBEC(R33A)-nCas9-Rad51-Ung1 from 17 loci (gRNA for C6 sites) in HEK293T cells

Supplementary Figure 3. The indel frequencies of APOBEC-nCas9-Ung, APOBEC-nCas9-Ung1 and GBE2.0 from 17 loci (gRNA for C6 sites) in HEK293T cells

Supplementary Figure 4. DNA off-target analysis of APOBEC-nCas9-Ung, APOBEC-nCas9-Ung1 and GBE2.0 from 17 loci (gRNA for C6 sites) at *PSMB2-1* and *RP11-177B4-3* in HEK293T cells

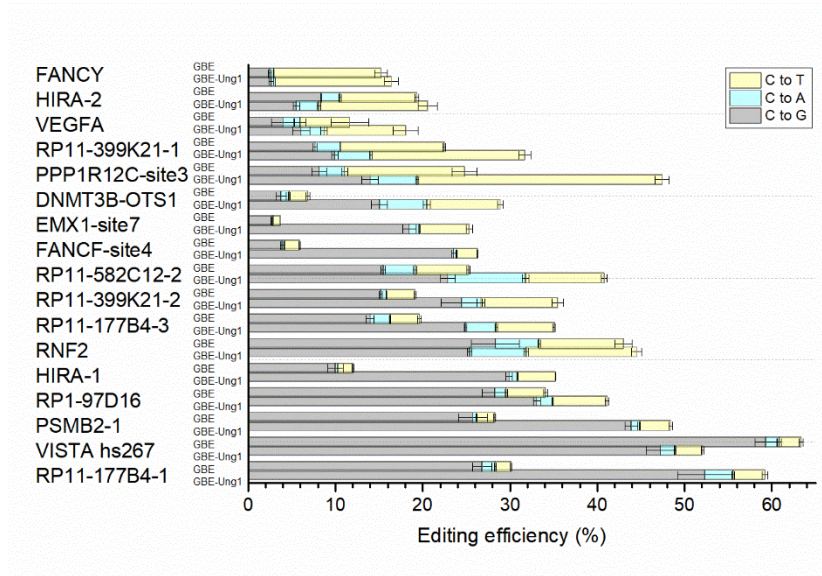
## **Supplementary Table Legends**

Supplementary Table 1. The protospacer sequences and primers used in this work

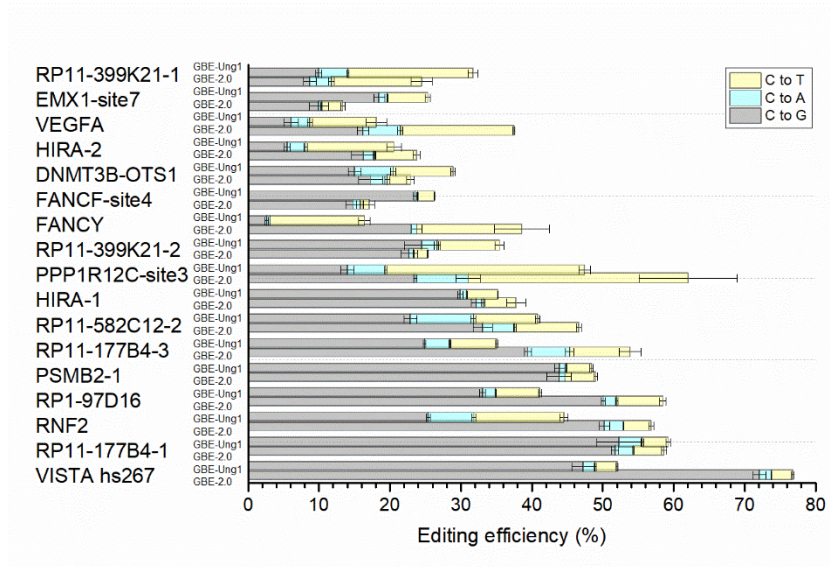
Supplementary Table 2. The off-target sites and primers used in this work

Supplementary Table 3. Correction of SNVs using GBE2.0

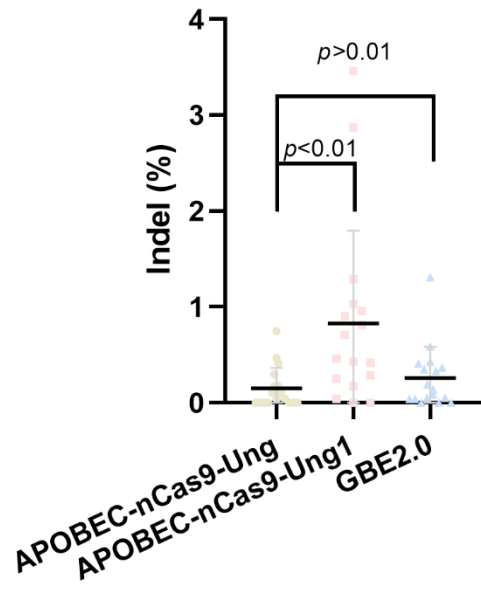
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**Supplementary Figure 2. The C-to-G/A/T base editing efficiency of APOBEC-nCas9-Ung1 and APOBEC(R33A)-nCas9-Rad51-Ung1 from 17 loci (gRNA for C6 sites) in HEK293T cells**



Supplementary Figure 3. The indel frequencies of APOBEC-nCas9-Ung, APOBEC-nCas9-Ung1 and GBE2.0 from 17 loci (gRNA for C6 sites) in HEK293T cells



**Supplementary Figure 4. DNA off-target analysis of APOBEC-nCas9-Ung, APOBEC-nCas9-Ung1 and GBE2.0 from 17 loci (gRNA for C6 sites) at *PSMB2-1* and *RP11-177B4-3* in HEK293T cells**

(a) Mutations of APOBEC-nCas9-Ung, APOBEC-nCas9-Ung1 and APOBEC(R33A)-nCas9-Rad51-Ung1 at *PSMB2-1* using mismatched sgRNAs. (b) Mutations of APOBEC-nCas9-Ung, APOBEC-nCas9-Ung1 and APOBEC(R33A)-nCas9-Rad51-Ung1 at *RP11-177B4-3* using mismatched sgRNAs. **\*\* $p < 0.01$**  was considered statistically significant. The bars represent the average editing efficiency and error bars represent the SD of three independent biological replicates.

