# pCMV-BE3

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| **载体编号 Vector ID** | V000899 |
| **抗性 Antibiotic Resistance** | Ampicillin |
| **长度 Length** | 8532 bp |
| **载体类型 Vector Type** | Mammalian Expression |

## 产品信息

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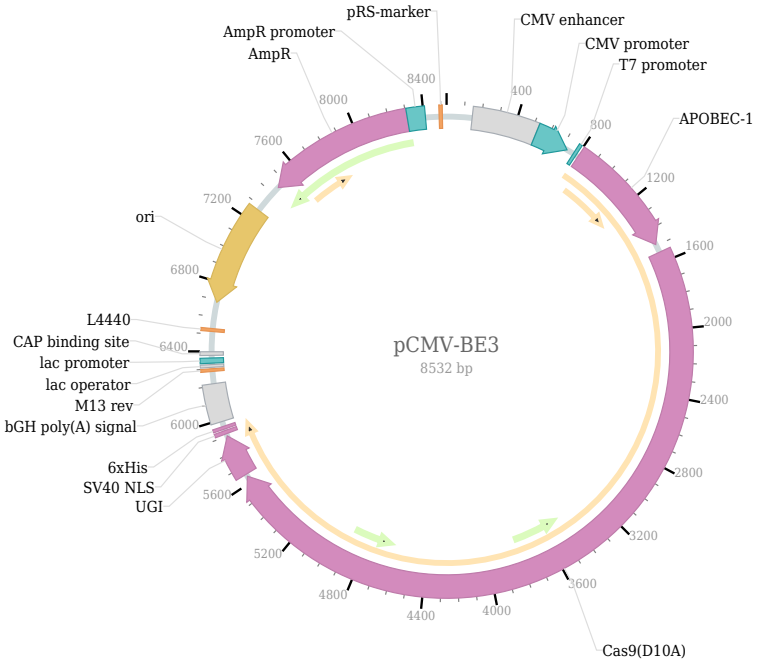
| **复制子 Replication Origin** | ori |
| **拷贝数 Copy Number** | High Copy |
| **启动子 Promoter** | CMV |
| **克隆方法 Cloning Method** | Ligation Independent Cloning |
| **5' 引物 5' Primer** | CMV |
| **3' 引物 3' Primer** | TGGTTCTTTCCGCCTCAGAAGC |
| **培养菌株 Growth Strain(s)** | DH10B |
| **备注 Comment** | pCMV-BE3 (Addgene #73021) is a mammalian expression plasmid constructed by Liu's lab for delivering the third-generation cytosine base editor BE3 under the strong CMV promoter. Its BE3 fusion protein consists of rAPOBEC1 cytidine deaminase, XTEN linker, Cas9 nickase (D10A, H840 wild-type), and UGI inhibitor to boost C-to-T conversion efficiency while suppressing DNA reversion and double-strand breaks. Unlike wild-type Cas9 HDR editing, this vector achieves 15–75% precise single-base correction in human/mouse cells with minimal indel formation (≤1.5%) by nicking the unedited G-containing strand to bias mismatch repair toward desired T:A outcomes. It was the core tool in Komor's landmark 2016 Nature work to fix pathogenic point mutations such as Alzheimer-linked APOE4 and cancer-causing TP53 variants without donor DNA templates. |

## 质粒图谱



## 复溶方法

1. Centrifuge at 5,000×g for 5 min.
2. Carefully open the tube and add sterile water to dissolve the DNA: add 20 µl for 5 µg plasmid, and 100 µl for 100 µg plasmid.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin to concentrate the liquid at the bottom. Speed is less than 5000×g.
5. Store the plasmid at -20 ℃.