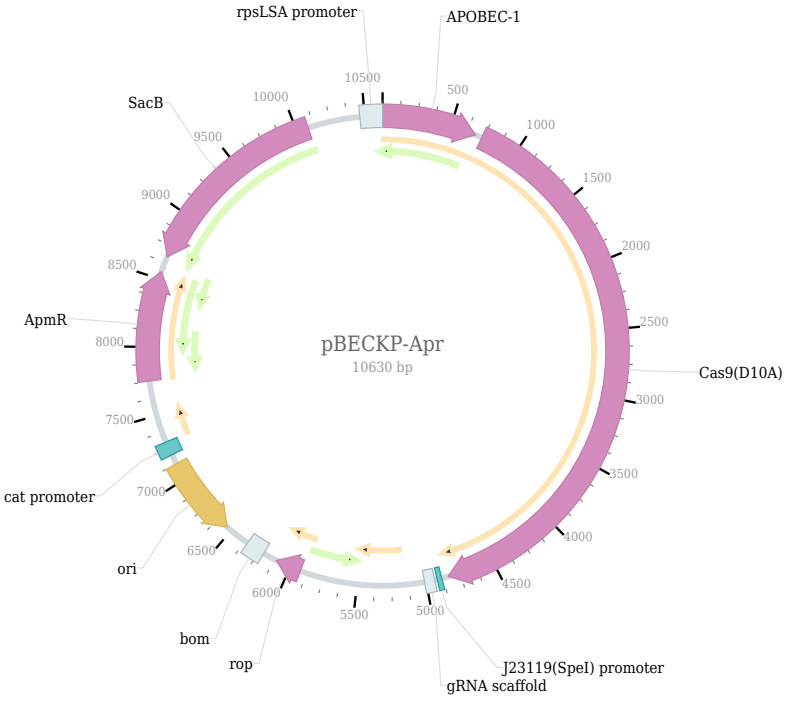
pBECKP-Apr

Vector ID	V014853
Antibiotic Resistance	Apramycin
Length	10630 bp
Vector Type	Genome editing
Host	Klebsiella pneumoniae

Product Information

Replication Origin	ori
Copy Number	Low
Promoter	J23119
Growth Strain(s)	DH10B
Growth Temperature	30℃
Comment	pBECKP-Apr is a single-plasmid cytidine base editing vector for Klebsiella pneumoniae, derived from the pBECKP system described by Wang et al. (2018). It is a low-copy-number plasmid (pBR322 origin, rop gene) that carries an apramycin resistance marker for selection. The vector expresses an rAPOBEC1-XTEN-Cas9(D10A) fusion protein — consisting of the rat APOBEC1 cytidine deaminase tethered to SpCas9 nickase (nSpCas9, D10A) via a 16-residue XTEN linker — under the control of a weak promoter, enabling targeted C-to-T base conversions without generating double-strand breaks. The sgRNA is driven by the synthetic constitutive promoter J23119, with two reversed BsaI sites for seamless one-step spacer assembly. The plasmid also contains the sacB gene for sucrose-based counter-selection, facilitating efficient plasmid curing after editing.

Vector Map



Plasmid Resuspension Protocol

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 ℃.