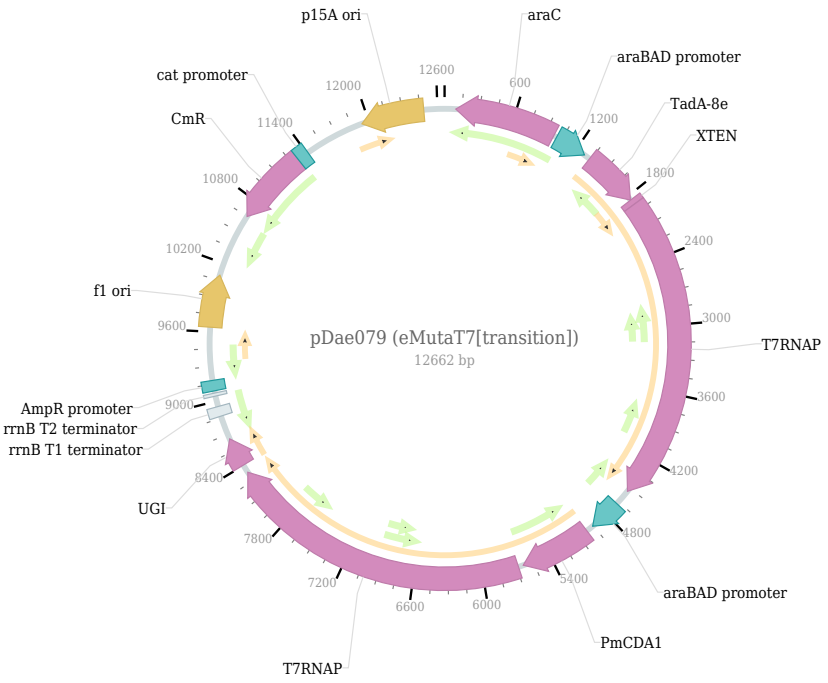
pDae079 (eMutaT7[transition])

Vector ID	V047693
Antibiotic Resistance	Chloramphenicol
Length	12662 bp
Vector Type	Bacterial Expression
Host	E. coli

Product Information

Replication Origin	p15A ori
Source/Author	Seokhee Kim
Copy Number	Low Copy
Promoter	araBAD
Growth Strain(s)	DH10B
Growth Temperature	37℃
Expression Method	L-arabinose Induced
Comment	pDae079 is the core dual-mutator plasmid of eMutaT7transition built on pBAD33 backbone for E. coli gene-specific in vivo hypermutation. It co-expresses two T7 RNAP-deaminase fusions (TadA-8e first, then PmCDA1) plus optimized UGI to balance two transition mutation types. Induced by arabinose and IPTG, it generates comparable C:G→T:A and A:T→G:C substitutions in T7-promoter-controlled target genes without severe off-target effects. Within 80 hours, it averagely introduces ~6.7 transition mutations per 1.3 kb target gene and enables continuous directed evolution like TEM-1 β-lactamase engineering for broad-spectrum antibiotic resistance.

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 ℃.