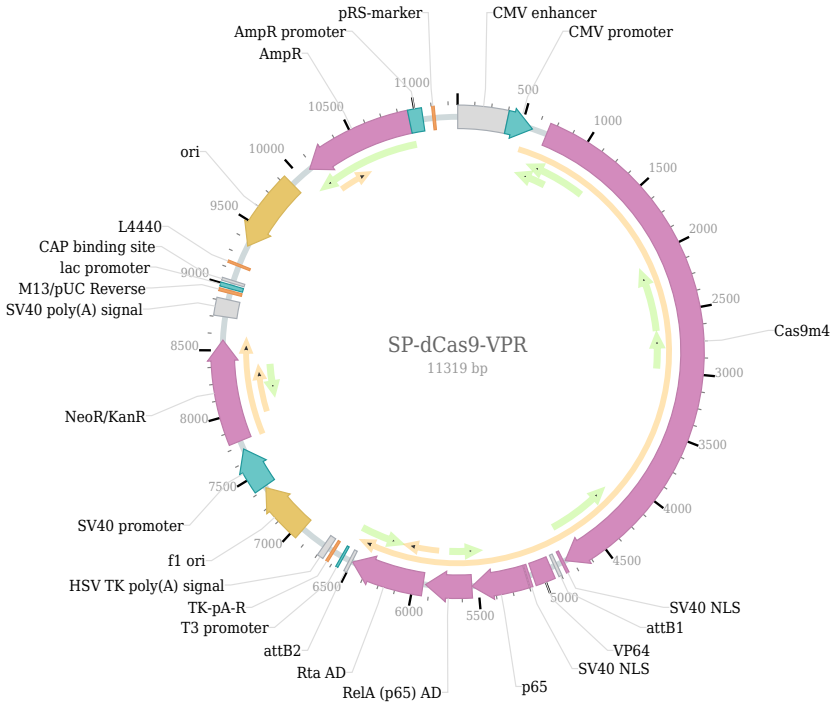
SP-dCas9-VPR

载体编号 Vector ID	V007193
抗性 Antibiotic Resistance	Ampicillin
长度 Length	11319 bp
载体类型 Vector Type	Mammalian Expression, CRISPR, Synthetic Biology

产品信息

复制子 Replication Origin	ori
筛选标记 Selection Marker	Neomycin (select with G418)
启动子 Promoter	CMV
克隆方法 Cloning Method	Gateway Cloning
5'引物 5' Primer	CMV-F
培养菌株 Growth Strain(s)	DH10B
培养温度 Growth Temperature	37℃
备注 Comment	SP-dCas9-VPR is a single-component CRISPRa plasmid with nuclease-dead S. pyogenes Cas9 fused to VPR, a tripartite activator ordered VP64-p65-Rta: VP64 recruits basal transcription machinery, p65 boosts NF-κB-mediated transcription, and Rta supplies potent viral transactivation activity. It outperforms dCas9-VP64 by 22–3200 folds in activating human endogenous genes and supports simultaneous multiplex gene upregulation. This VPR fusion module works in mammalian cells, yeast and Drosophila when paired with species-specific expression vectors. The mammalian backbone of this construct efficiently triggers human iPSC neuronal differentiation via overexpressing NEUROD1 or NGN2. Unlike multi-component CRISPRa systems such as SAM, it relies on one effector plasmid to streamline cell engineering for gain-of-function research.

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 ℃.