Product Specification Sheet

Product Name	**pLV-EF1-dCas9-VPR-PGK-BSD Lentiviral Vector**
Description	CRISPR (clustered regularly interspaced short palindromic repeats) activation (CRISPRa) is a widely used genetic technique that allows for targeted activation of transcription in bacteria and mammalian cells. The CRISPRa system is comprised of a catalytically inactive Cas9 (dCas9) protein fused with a transcriptional activator such as the tripartite fusion of three transcription activation domains: VP64, p65 and Rta (VPR) and a customizable single guide RNA (sgRNA). The Cas9-sgRNA complex binds to DNA elements complementary to the sgRNA and recruits transcription factors to increase gene expression, resulting in the activation of the target gene. pLV-EF1-dCas9-VPR-PGK-BSD Lentiviral Vector expresses the dCas9-VPR fusion with an EF1 promoter and BSD with PGK promoter to allow for selection of transduced cells.
Catalog Number	DV101
Size	10 µg at 0.5 µg/µL in TE
Shipping	Room temperature
Storage and Stability	Store at -20°C immediately upon receipt. This product is stable for 6 months when stored as directed.
Quality Control	This plasmid is sequence verified.
Safety Precaution	Remember that you will be working with samples containing infectious virus. Follow the recommended NIH guidelines for all materials containing BSL-2 organisms. The ALSTEM Lentiviral Expression System is designed to minimize the chance of generating replication-competent lentivirus, but precautions should still be taken to avoid direct contact with viral supernatants.
Restricted Use	For Research Use Only. Not for use in diagnostic or therapeutic procedures.

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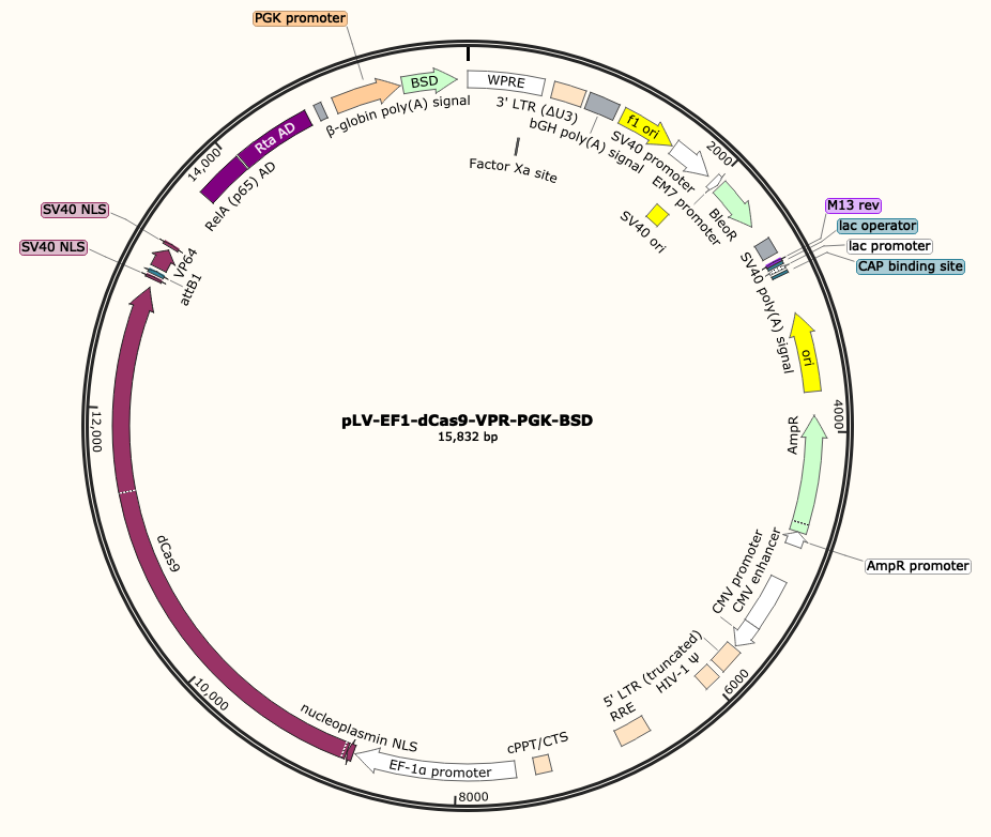
Vector Information

This is a lentiviral expression vector that contains all the elements necessary for efficient and high yield viral production. Ubiquitous EF1 and PGK promoters drive the expression of the dCas9-VPR fusion protein and BSD, respectively, to allow for the selection of transduced cells. This vector can be used for stable cell line generation or in combination with a gene specifc sgRNA to activate the target gene expression.



*Note: Bacterial culture of pLenti vectors should be done in medium containing **10 µg/mL** Ampicillin. For maximal plasmid yield and quality, we recommend Stbl3 competent cells (Invitrogen).*

IMPORTANT NOTICE

Store the vial at -20°C immediately upon receipt.

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