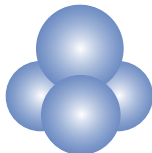


Product Specification Sheet

| | |
|------------------------------|---|
| Product Name | pSCas9 Nuclease & AAVS1 gRNA Vector |
| Description | <p>ALSTEM's innovative SpCas9 & AAVS1 gRNA donor vector has been meticulously engineered to harness the potential of the SpCas9 nuclease in a highly specific manner, allowing for the precise cleavage of the human AAVS1 "safe harbor" site nestled within intron 1 of the PPP1R12C gene, also known as protein phosphatase 1 regulatory subunit 12C. The AAVS1 "safe harbor" holds a special significance in genetic engineering due to its remarkable characteristic of exerting minimal influence on cellular functions. It is particularly effective in facilitating strong transcription, rendering it an optimal location for sustaining the expression of an externally introduced gene while reducing the chance of unintended integration elsewhere. The SpCas9 nuclease, a pivotal component of the CRISPR-Cas9 system, plays a central role in initiating precise double-strand DNA breaks. These breaks serve as the foundation for genetic modifications, including gene knockout and the insertion of specific sequences. When coupled with the AAVS1 donor vector and AAVS1 gRNA, SpCas9 simplifies the integration of a gene of interest into the AAVS1 "safe harbor" site, streamlining the enhancement of gene expression. This combined approach empowers researchers with a highly efficient and reliable method for genetic engineering, striking a balance between precision and minimal cellular impact. In essence, ALSTEM's SpCas9 & AAVS1 gRNA vector offers a cutting-edge solution for targeted and stable gene editing, with vast potential in the field of molecular biology and biotechnology.</p> |
| Catalog Number | GA001 |
| 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 | This product does not contain any hazardous materials with occupational exposure limits. Nevertheless, ALSTEM strongly advises anyone handling this product to use suitable protective eyewear, such as chemical safety goggles or protective glasses, along with gloves and appropriate clothing to prevent skin contact. |
| Restricted Use | For Research Use Only. Not for use in diagnostic or therapeutic procedures. |



ALSTEM, INC

2600 Hilltop Drive, BLDG B, STE C328, Richmond, CA 94806

Tel: (510) 708-0096

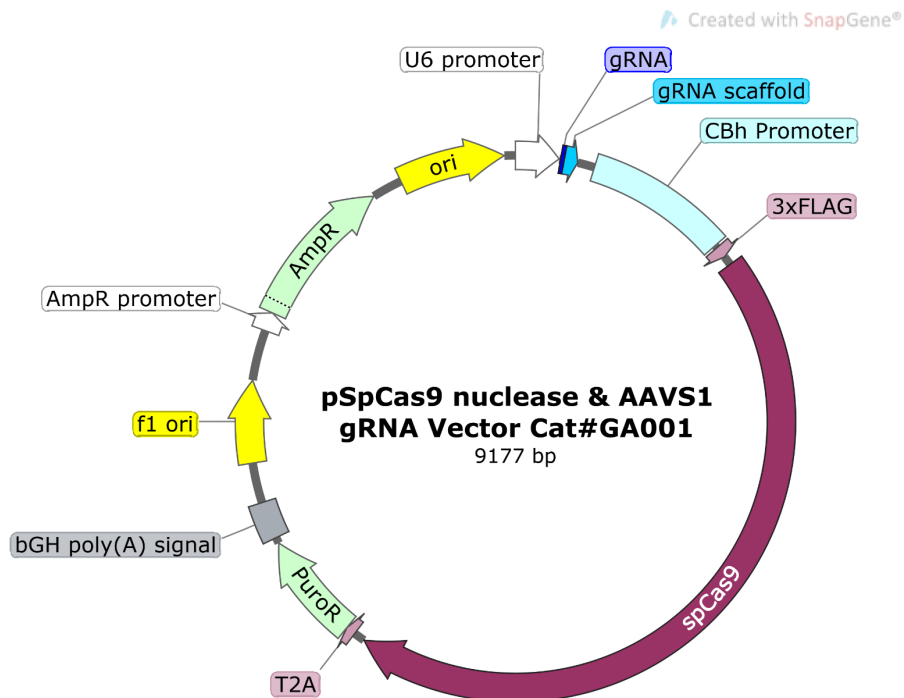
Fax: (866) 605-8766

www.ALSTEMbio.com

info@ALSTEMbio.com

Vector Information

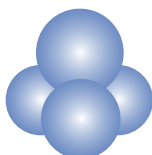
This comprehensive SpCas9 and gRNA expression vector contains all the necessary elements for establishing a cleavage site in the AAVS1 Safe Harbor location using the SpCas9 nuclease. The SpCas9 gene, regulated by the CBh promoter, is coupled with a U6 promoter-driven specific gRNA sequence and a gRNA scaffold element that targets the AAVS1 safe harbor site. This combination ensures precise cleavage at the AAVS1 safe harbor site. When utilized in conjunction with an AAVS1 donor vector, this vector facilitates knock-in at the AAVS1 safe harbor site.



*Note: Bacterial culture of pSpCas9 & AAVS1 gRNA vectors should be done in medium containing **100 µg/mL** Carbenicillin. 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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