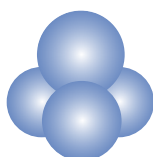


# Product Specification Sheet

<b>Product Name</b>	<b>pAAVS1-SA-T2A-Neo-CAG-dCas9-KRAB-pA Donor Vector</b>
<b>Description</b>	<p>CRISPR interference (CRISPRi) has emerged as a potent tool, allowing targeted silencing of gene transcription in both prokaryotic and eukaryotic cells. The synergy of the inactive Cas9 (dCas9) and the Krüppel-associated box (KRAB) repressor enables accurate and reversible gene silencing. Furthermore, the strategic utilization of the Human AAVS1 "safe harbor" site, located within intron 1 of the PPP1R12C gene, minimizes its impact on cellular functions. Our innovative pAAVS1-SA-T2A-Neo-CAG-dCas9-KRAB-pA donor vector seamlessly combines the strengths of CRISPRi and the AAVS1 safe harbor site. Featuring a CAG promoter-driven dCas9-KRAB fusion gene, this design ensures consistent and robust expression of the dCas9/KRAB protein without disrupting cellular functions. The vector also strategically integrates a Neomycin selection marker with a splice acceptor (SA) site within the AAVS1 safe harbor locus, closely tying Neomycin-resistant gene expression to intron integration. This significantly reduces the risk of unintended off-target integrations during G418 selection. When employed with the SpCas9 nuclease and AAVS1 gRNA expression vector, the pAAVS1-SA-T2A-Neo-CAG-dCas9-KRAB-pA donor vector facilitates the seamless integration of a dCas9/KRAB fusion protein into the AAVS1 safe harbor site. This approach, combined with specific gene-targeted gRNAs, enables precise and highly efficient repression of the target gene expression, offering an easy and consistent method for specific gene silencing.</p>
<b>Catalog Number</b>	AC7302
<b>Size</b>	10 µg at 0.5 µg/µL in TE
<b>Shipping</b>	Room temperature
<b>Storage and Stability</b>	Store at -20°C immediately upon receipt. This product is stable for 6 months when stored as directed.
<b>Quality Control</b>	This plasmid is sequence verified.
<b>Safety Precaution</b>	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.
<b>Restricted Use</b>	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

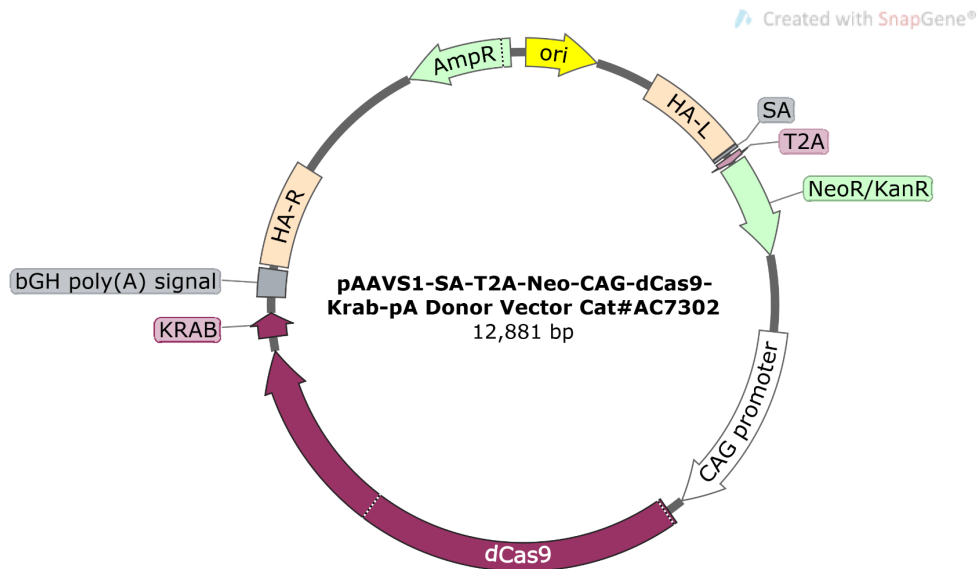
Fax: (866) 605-8766

[www.alstembio.com](http://www.alstembio.com)

[info@alstembio.com](mailto:info@alstembio.com)

## Vector Information

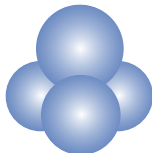
This AAVS1 donor vector includes essential components to serve as a reliable integration marker in the AAVS1 Safe Harbor site. It incorporates a universal SA-T2A-NeoR cassette, facilitating the integration of a dCas9/KRAB fusion gene driven by a CAG promoter into the AAVS1 safe harbor site through antibiotic selection. This vector is suitable for generating CRISPRi stable cell lines.



*Note: Bacterial culture of AAVS1 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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