Description
AAV-DJ-CMV-mCherry viral particles lead to the expression of mCherry under the control of a CMV promoter.

Background
Adeno-Associated Virus-DJ (AAV-DJ) is a synthetic serotype made from eight different wild-type AAV serotypes (AAV2, 4, 5, 8, 9, avian, bovine, and goat AAV) using DNA shuffling. These modifications give the AAV-DJ serotype improved transduction efficiency *in vitro* and *in vivo* compared to wild-type serotypes. Consequently, AAV-DJ can infect a broad range of cell types. mCherry is a monomeric red fluorescent protein derived from DsRed found in the sea anemones *Discosoma*. It belongs to the mFruit family of monomeric red fluorescent proteins, which are improved versions of mRFP1 (monomeric red fluorescent protein 1) in terms of brightness and photostability. mCherry matures rapidly, making it possible to see results very soon after transduction. The use of fluorescent proteins allows for direct visualization of transduced cells under a fluorescent microscope or analysis by flow cytometry.

Application(s)

- Positive control for transduction.
- Optimization of transduction assays and tracking of transgene expression over time.

Serotype
AAV-DJ

Formulation
AAV was produced in HEK293-AAV cells and is supplied in PBS-MK (PBS Magnesium-Potassium) buffer containing 0.01% Pluronic F68. Virus particles can be packaged in custom formulations by special request, for an additional fee.

Purification
The purity of the AAV particles was confirmed to be greater than 90% by staining with One-Step Lumitein™ UV Protein Gel Stain (Biotium #21005-1L). The purity varies with each lot; the exact value will be provided with each shipment.

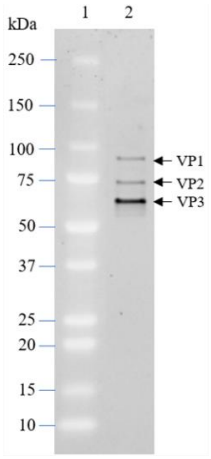


Figure 1. Purified AAV-DJ-mCherry particles.
Staining of a 4-20% SDS-PAGE gel. The protein ladder was loaded in lane 1, and 2 x 10^9 VG (vector genome) of AAV-DJ was loaded in lane 2. AAV viral proteins VP1, VP2, and VP3 are indicated by arrows.

Size and Titer

Two vials (50 µl x 2) of AAV at a titer ≥1 x 10^{12} vector genomes/ml. The titer is determined by qPCR and will vary with each lot; the exact value will be provided with each shipment.

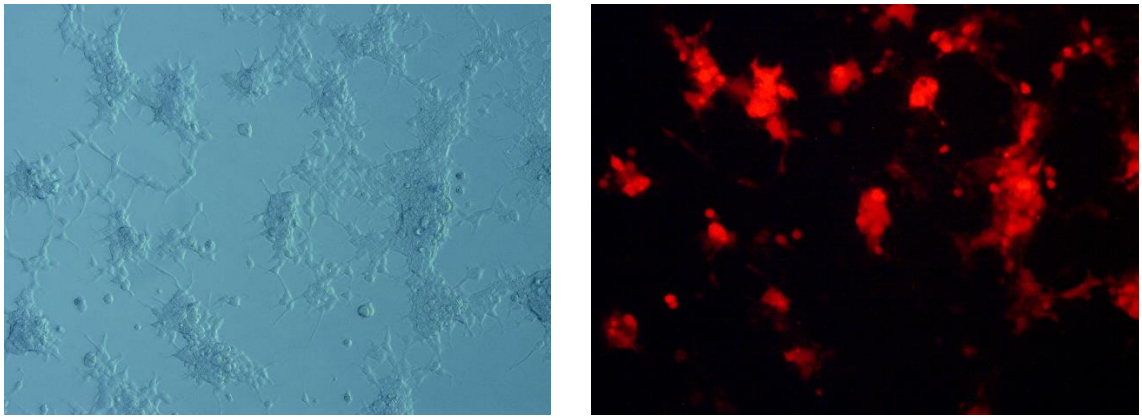
Storage

AAV is shipped with dry ice. For long-term storage, it is recommended to store AAV at -80°C for up to 12 months from date of receipt. Avoid repeated freeze-thaw cycles. Titers can drop significantly with each freeze-thaw cycle.

Biosafety

Recombinant AAV is inherently replication-deficient and not known to cause any human diseases. Additionally, following transduction, AAV vectors exist episomally and do not integrate into or disrupt the host cell's genome. AAV requires the use of a Biosafety Level 1 facility. BPS Bioscience recommends following all local, federal, state, and institutional regulations and using all appropriate safety precautions.

Validation Data



Bright field Fluorescent

Figure 2. HEK293T cells transduced with AAV-DJ-mCherry viral particles.
3 x 10^5 cells/well were transduced in a 6-well plate with AAV-DJ-mCherry at an MOI of 2 x 10^4. 72 hours post- transduction, mCherry expression was assessed by fluorescence microscopy. Bright field images (left) and fluorescent images (right) were acquired.

Data shown is representative. For lot-specific information, please contact BPS Bioscience, Inc. at support@bpsbioscience.com.

Notes

The AAV-DJ viruses are covered under several patents, including U.S. Patent Nos. 7,588,772, 8,067,014, 8,574,583, and 8,906,387, as well as corresponding foreign patents applications and patent rights. AAV-DJ is used under a license agreement.

Troubleshooting Guide

Visit bpsbioscience.com/lentivirus-faq for detailed troubleshooting instructions. For all further questions, please email support@bpsbioscience.com.

Related Products

Products	*Catalog #*	*Size*
AAV-DJ SaCas9	78478	50 µl x 2
AAV-DJ Luciferase-eGFP	78460	50 µl x 2
AAV-DJ Luciferase-mCherry	78469	50 µl x 2
AAV-DJ MBP-eGFP	82112	50 µl x 2
AAV-DJ SBP-Luciferase	82135	50 µl x 2
AAV-DJ SYN1-Luciferase	82134	50 µl x 2

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