Description
AAV-DJ MBP eGFP particles transduce enhanced Green Fluorescent Protein (eGFP) under the control of a 1.3 Kb MBP (myelin basic protein) promoter that drives GFP reporter expression in oligodendrocytes.

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 allow the AAV-DJ serotype to exhibit improved transduction efficiency *in vitro* and *in vivo* and infect a broader range of cell types compared to the wild-type serotypes.

Myelin basic protein (MBP) is an oligodendrocyte-specific protein that interacts with the cell cytoskeleton and participates in oligodendrocyte differentiation by ensuring proper compaction of the myelin sheath. The use of a MBP promoter allows specific expression of proteins in this essential cell type of the central nervous system.

Application(s)

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

Serotype
AAV Serotype 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.

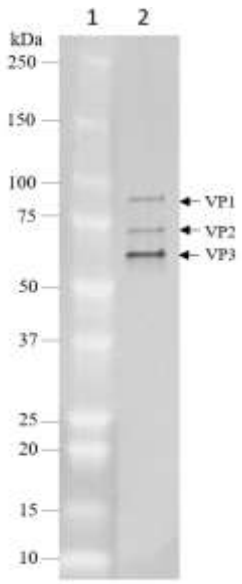

Figure 1. Purified AAV-DJ MBP eGFP particles.
Staining of a 4-20% SDS-PAPGE gel. The protein marker was loaded in lane 1, and 2 x 10^9 VG (vector genomes) of AAV was loaded in lane 2. AAV viral proteins VP1, VP2, and VP3 are indicated by arrows.

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 varies 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. 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

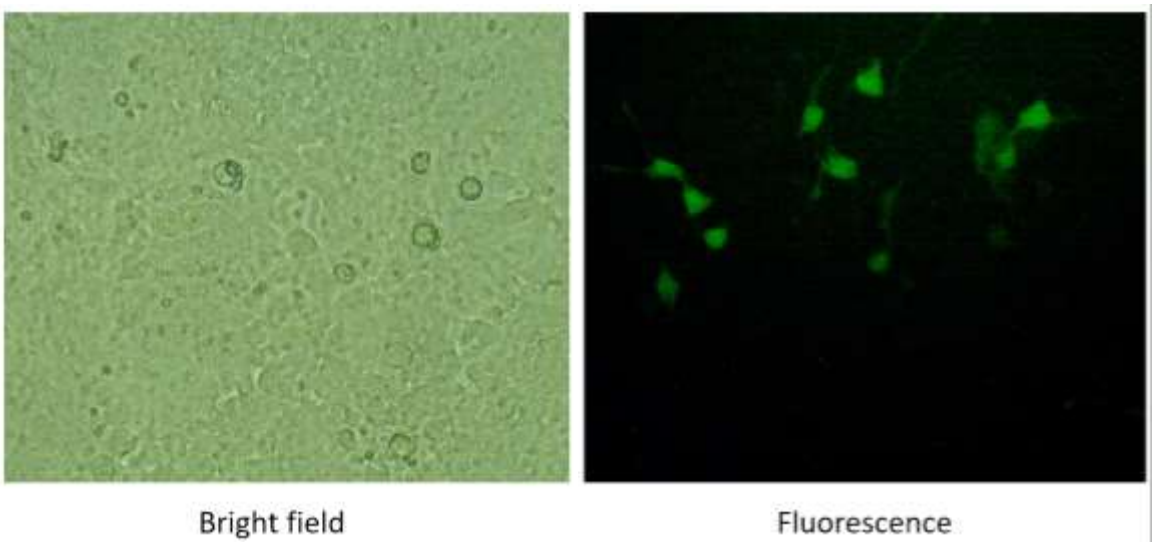

Figure 2. Transduction of HEK293 cells with AAV-DJ MBP eGFP particles.
1 x 10^5 HEK-293 cells were transduced in a 6-well plate with AAV-DJ Luciferase eGFP particles at an MOI of 2 x 10^4. After 72 hours of transduction, eGFP expression was observed under a fluorescence microscope.

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
MBP, His-tag Recombinant	40535	100 µg