Description
Adeno-Associated Virus Serotype 1 (AAV1) exhibits high homology with other AAV serotypes. AAV1 efficiently transduces muscle tissue, as determined by a region of the capsid protein VP1 (amino acids 350 to 430) which functions as a major determinant of tissue tropism.

These AAV1 particles constitutively express ZsGreen under a CMV promoter. ZsGreen is a human codon-optimized variant of the green fluorescent protein isolated from reef coral (*Zoanthus sp*). It has been engineered for higher expression in mammalian cells and is up to four times brighter than enhanced GFP (eGFP). ZsGreen expression and AAV1 transduction efficiency can easily be verified and optimized by fluorescence microscopy or flow cytometry. ZsGreen has an excitation wavelength of 493 nm and an emission wavelength of 505 nm.

Application(s)

- Use as a positive control for transduction
- Optimize transduction assays and track expression over time

Serotype
Wild-type AAV Serotype 1

Formulation
AAV1 was produced in HEK293-AAV cells and is supplied in PBS-MK (PBS Magnesium-Potassium) buffer with 0.01% Pluronic F68.

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 will vary with each lot; the exact value is provided with each shipment.

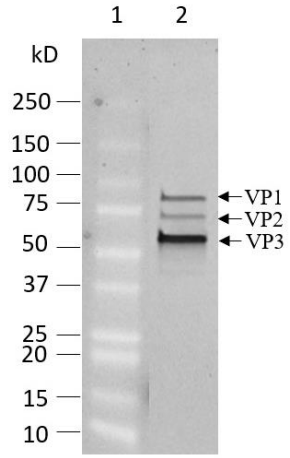

Figure 1. Purified AAV1 ZsGreen particles.
Staining of a 4-20% SDS-PAGE gel. The protein ladder is in lane 1, and 10^{10} GC (genome copy number) of AAV1 is in lane 2. Additional lanes between 1 and 2 were removed in the figure for clarity. AAV viral proteins VP1, VP2, and VP3 are labeled.

Titer

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

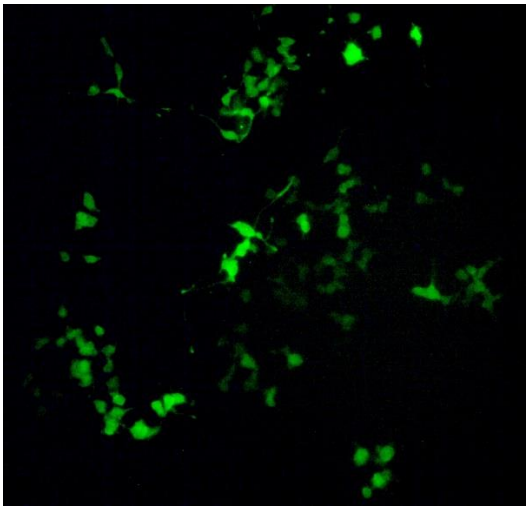

Figure 2. Transduction of HEK293 cells using AAV1 ZsGreen.
1 x 10^5 cells/well were transduced in a 6-well plate with AAV1 ZsGreen at an MOI of 1 x 10^4. After 72 hours of transduction, ZsGreen expression in the target cells was observed under a fluorescence microscope. ZsGreen expression was stable over time and still observed 30 days after transduction.

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*
AAV2 ZsGreen	78444	50 µl x 2
AAV3 ZsGreen	78445	50 µl x 2
AAV5 ZsGreen	78447	50 µl x 2
AAV8 ZsGreen	78449	50 µl x 2
AAV9 ZsGreen	78450	50 µl x 2