

Description

Adeno-Associated Virus Serotype 9 (AAV9) is one of the most promising serotypes for gene therapy applications. AAV9 transduces a wide range of tissue types, including cardiac and skeletal muscles, liver, pancreas, and eye tissue. AAV9 has significantly lower seroprevalence in the human population than other AAV serotypes, making AAV9 a desirable candidate for therapeutic applications.

These AAV9 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 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 9

Formulation

AAV9 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.

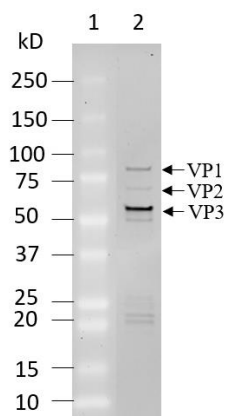


Figure 1. Purified AAV9 ZsGreen particles.

Staining of a 4-20% SDS-PAGE gel. The protein ladder is in lane 1, and 2×10^9 VG (vector genome) of AAV9 is in lane 2. Additional lanes between 1 and 2 were removed from the figure for clarity. AAV viral proteins VP1, VP2, and VP3 are labelled.

Titer

Two vials (50 μ l x 2) of AAV at a titer $\geq 1 \times 10^{12}$ vector genomes/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. Titters 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.

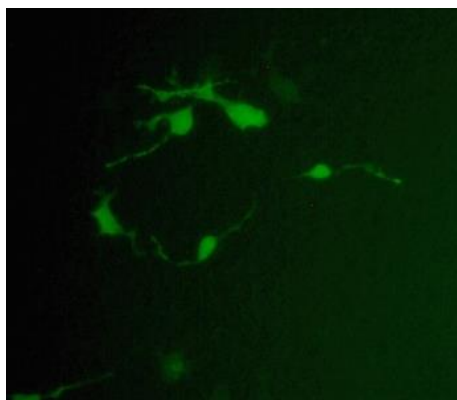
Validation Data

Figure 2. Transduction of HEK293 cells using AAV9 ZsGreen.

1×10^5 cells/well were transduced in a 6-well plate with AAV9 ZsGreen at an MOI of 2×10^4 . 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

<i>Products</i>	<i>Catalog #</i>	<i>Size</i>
AAV1 ZsGreen	78443	50 µl x 2
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