Description
Adeno-Associated Virus serotype 8 (AAV8) was isolated from rhesus monkey tissue, and the AAV8 rep and cap nucleotide sequences have 88% homology with AAV7 and 82% with AAV2. AAV8 exhibits greater transduction efficiency in the liver than other AAV serotypes. AAV8 and 9 have recently been used to correct disease-causing mutations and improve muscle function in mouse models of Duchenne muscular dystrophy.

These AAV particles constitutively express the firefly (*Photinus pyralis*) luciferase gene under the control of a CMV promoter. AAV transduction efficiency can easily be verified by measurement of luciferase activity.

Application(s)

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

Serotype
Wild-type AAV Serotype 8

Formulation
AAV was produced in HEK293-AAV cells and is supplied in PBS-MK (PBS Magnesium-Potassium) buffer containing 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 will be provided with each shipment.

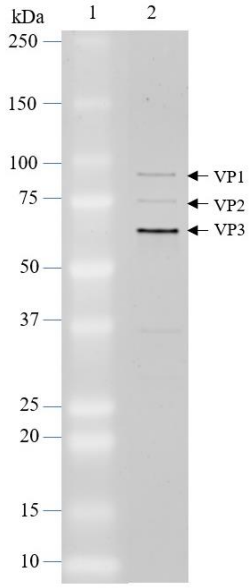

Figure 1. Purified AAV8 Luciferase particles.
Staining of a 4-20% SDS-PAGE gel. The protein ladder is in lane 1, and 5 x 10^9 GC (genome copy number) of AAV8 is shown in lane 2. AAV viral proteins VP1, VP2, and VP3 are labelled.

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 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

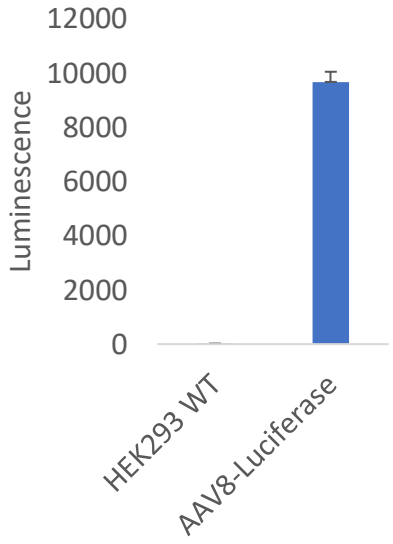

Figure 2. Luciferase activity in HEK293 cells transduced by AAV8 Luciferase particles.
1 x 10^5 cells/well were transduced in a 24-well plate with AAV8 Luciferase at an MOI (Multiplicity of Infection) of 2 x 10^4. After 72 hours of transduction, transduced cells or parental HEK293 cells were seeded in a 96-well plate at a density of 2 x 10^4 cells/well, and luciferase activity was measured using the ONE-Step™ Luciferase Assay System (BPS Bioscience #60690).

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*
AAV3 ZsGreen	78445	50 µl x 2
AAV8 ZsGreen	78449	50 µl x 2
AAV1 Luciferase	78452	50 µl x 2
AAV6 Luciferase-eGFP	78466	50 µl x 2
AAV8 Luciferase-eGFP	78467	50 µl x 2
AAV8 Luciferase-mCherry	78476	50 µl x 2
AAV2 SaCas9	78480	50 µl x 2