Description
Adeno-Associated Virus Serotype 5 (AAV5) differs from other parvovirus serotypes according to serological and DNA hybridization data, and AAV5 also uses different inverted terminal repeats (ITRs) compared to other AAV serotypes. AAV5 is the most efficient vector for transducing sensory neurons and is effective at mediating gene transfer into human and murine airway epithelia. In addition, AAV5 vectors show a higher tropism for both mouse and human dendritic cells than AAV1, AAV2, AAV7, or AAV8.

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 5

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.

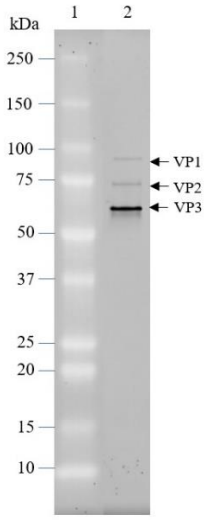

Figure 1. Purified AAV5 Luciferase particles.
Staining of a 4-20% SDS-PAGE gel. The protein ladder is in lane 1, and 5 x 10^9 VG (vector genome) of AAV5 is shown in lane 2. AAV viral proteins VP1, VP2, and VP3 are labelled.

Titer
Two vials (50 µl x 2) of AAV at a titer ≥1 x 10^{12} 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. 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

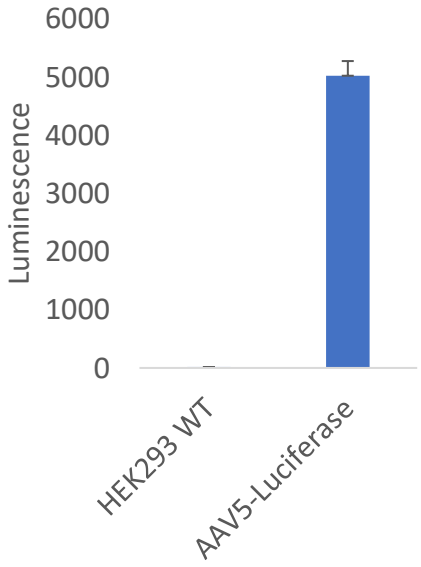

Figure 2. Luciferase activity in HEK293 cells transduced by AAV5 Luciferase particles.
1 x 10^5 cells/well were transduced in a 24-well plate with AAV5 Luciferase at an MOI of 2 x 10^4. After 72 hours of transduction, transduced cells or parental HEK293 cells were seeded in a 96-well plate at a density 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
AAV5 ZsGreen	78447	50 µl x 2
AAV5 Luciferase-eGFP	78465	50 µl x 2
AAV9 Luciferase-mCherry	78477	50 µl x 2
AAV2 SaCas9	78480	50 µl x 2