Description
Adeno-Associated Virus serotype 2 (AAV2) is the best characterized AAV serotype. Nearly all recombinant AAV serotypes utilize the AAV2 inverted terminal repeats (ITRs). AAV2 requires the expression of Heparan Sulfate Proteoglycan (HSPG) on the surface of host for cells for binding and internalization. Of nearly all the discovered AAV serotypes, AAV2 has the best transduction efficiency in cell culture and is the best tool for in vitro studies.

These AAV particles constitutively express the firefly (*Photinus pyralis*) luciferase under the control of a CMV promoter.

Application(s)

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

Serotype
Wild-type AAV Serotype 2

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). Purity will vary with each lot; the exact value will be provided with each shipment.

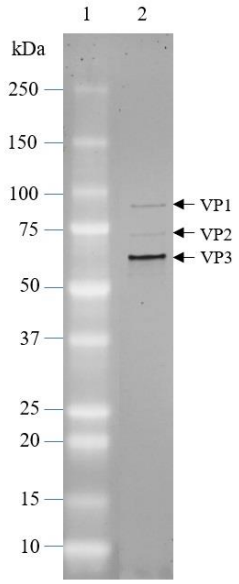

Figure 1. Purified AAV2 Luciferase particles.
Staining of a 4-20% SDS-PAGE gel. The protein ladder is in lane 1, and 2 x 10^9 GC (genome copy number) of AAV is shown in lane 2. AAV viral proteins VP1, VP2, and VP3 are labelled.

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

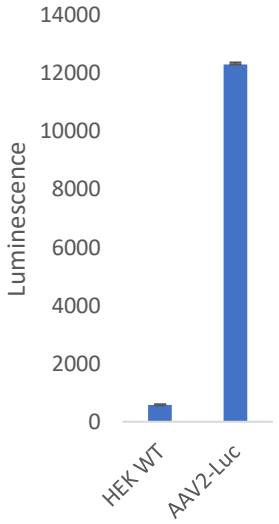

Figure 2. Luciferase activity of HEK293 cells transduced by AAV2 Luciferase particles.
1 x 10^5 cells/well were transduced in a 6-well plate with AAV2 Luciferase at an MOI of 2 x 10^4. After 72 hours of transduction, transduced cells or parental HEK293 cells were seeded in a 96-well plate at a density 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*
AAV2 ZsGreen	78444	50 µl x 2
AAV5 ZsGreen	78447	50 µl x 2
AAV2 Luciferase-eGFP	78462	50 µl x 2
AAV9 Luciferase-eGFP	78468	50 µl x 2
AAV2 Luciferase-mCherry	78471	50 µl x 2
AAV8 Luciferase-mCherry	78476	50 µl x 2