

### Description

Adeno-Associated Virus serotype 6 (AAV6) appears to be related to AAV1 by sequence analysis and shows the best transduction efficiency in pancreatic beta-cells compared to other AAV serotypes. AAV6 vectors are also particularly effective in the transduction of human prostate, breast, and liver cancer cells.

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

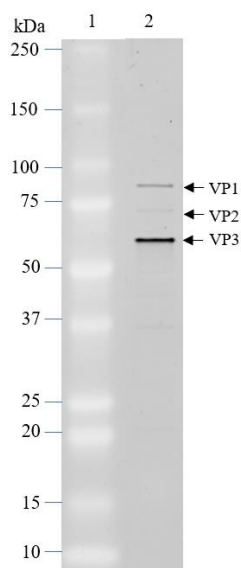
Wild-type AAV Serotype 6

### 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 AAV6 Luciferase particles.*

Staining of a 4-20% SDS-PAGE gel. The protein ladder is in lane 1, and  $5 \times 10^9$  GC (genome copy number) of AAV6 is shown in lane 2. AAV viral proteins VP1, VP2, and VP3 are labelled.

### Titer

Two vials ( $50 \mu\text{l} \times 2$ ) of AAV at a titer  $\geq 1 \times 10^{12}$  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  $-80^{\circ}\text{C}$ . 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.

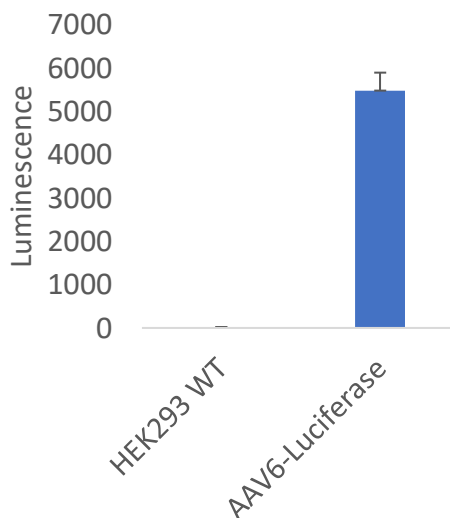
**Validation Data**

Figure 2. Luciferase activity of HEK293 cells transduced by AAV6 Luciferase particles.

$1 \times 10^5$  cells/well were transduced in a 24-well plate with AAV6 Luciferase at an MOI of  $2 \times 10^4$ . After 72 hours of transduction, transduced cells or parental HEK293 cells were seeded in a 96-well plate at a density of  $2 \times 10^4$  cells/well, and luciferase activity was measured using the ONE-Step™ Luciferase Assay System (BPS Bioscience #60690).

**Troubleshooting Guide**

Visit [bpsbioscience.com/lentivirus-faq](https://bpsbioscience.com/lentivirus-faq) for detailed troubleshooting instructions. For all further questions, please email [support@bpsbioscience.com](mailto:support@bpsbioscience.com).

**References**

Sayroo, R., *et al.* 2016. *Gene Ther.* 23: 18–25. <https://doi.org/10.1038/gt.2015.89>

**Related Products**

Products	Catalog #	Size
AAV3 ZsGreen	78445	50 $\mu\text{l}$ x 2
AAV6 ZsGreen	78448	50 $\mu\text{l}$ x 2
AAV6 Luciferase-eGFP	78466	50 $\mu\text{l}$ x 2
AAV9 Luciferase-mCherry	78477	50 $\mu\text{l}$ x 2
AAV2 SaCas9	78480	50 $\mu\text{l}$ x 2