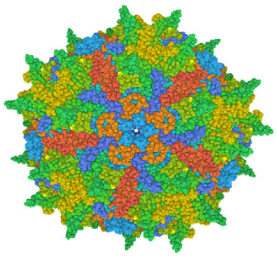
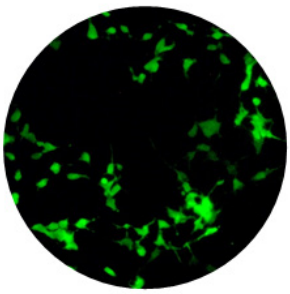
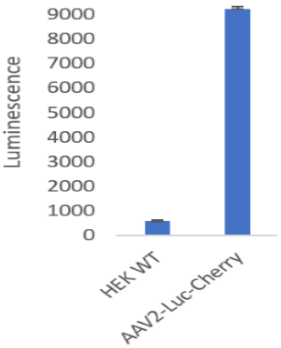
AAV Particles for Gene Delivery

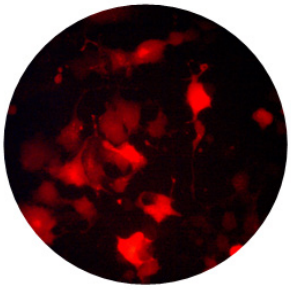


Adeno-Associated Viruses (AAV) are non-enveloped and consist of a capsid containing a short, single-stranded DNA genome. Recombinant AAVs are engineered to be integration-deficient and to deliver a gene of interest (up to ≤5 kb) in place of the viral genome. Inside the cell, the recombinant AAV vector exists as an episome and results in sustained expression of the gene of interest. Due to its low immunogenicity and lack of insertion, AAVs are safe for clinical use and are the vector of choice for many gene therapies currently in development. They are also very useful for animal studies. View our AAV products.

AAV Reporter Vectors





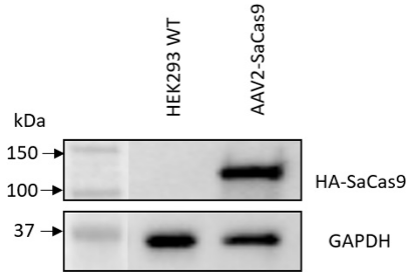


Fluorescence microscopy and/or luciferase assay performed in HEK293 cells 72 hours after transduction with AAV1 ZsGreen (left), AAV2 mCherry-Luciferase (middle and right). Reporter expression was stable over time and still observed 30 days post transduction.

Reporter proteins are ideal to visualize and/or quantify protein expression following AAV transduction. Luciferase, eGFP, ZsGreen, and mCherry-containing AAVs can be used as internal controls or to optimize transduction and experimental conditions, and track transgene expression over time.

CRISPR/Cas9-based genetic engineering

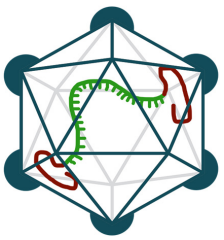
Endonuclease Cas9 is recruited to a specific DNA sequence by the sgRNA (single guide RNA) to introduce a double stranded break into the DNA. SaCas9 (*Staphylococcus aureus* CRISPR associated protein 9) has high cutting efficiency in mammalian cells, and its small size makes it ideal for packaging into AAV. These AAV-SaCas9 vectors are used to generate a SaCas9 over-expressing cell line for knockout or knock-in studies.



Western Blot detection of SaCas9 expression 72 hours following transduction of HEK293 cells using AAV2 SaCas9.

Custom AAV design and production

Our AAV team will design your custom AAV constructs and will manufacture ready-for-use viral particles to transduce your gene(s) of interest. Applications include CRISPR-mediated genetic engineering, protein expression, and the design and optimization of AAV-mediated gene transfer using reporter AAVs.



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