

## Master AAV design and overcome production challenges

Gene therapy research has reached a critical point, where novel therapies demand the highest level of precision. PacBio long-read sequencing technology and Form Bio's streamlined data analysis now offer an all-in-one solution to optimize your AAV vector designs. This workflow can help enable desired gene therapy outcomes, providing you with the confidence and assurance to take your gene therapy research to new heights and stay ahead of the curve.



**Profile packaged genomes** as a single intact molecule



**Assess vector integrity** without extensive preparation



**Reveal the relative distribution of truncated genomes** vs full-length genomes in vector preparation



**Detect reverse-packaged genomes** that encompass sequences originating from plasmid backbone



**Identify sequences** from packaging helper plasmids

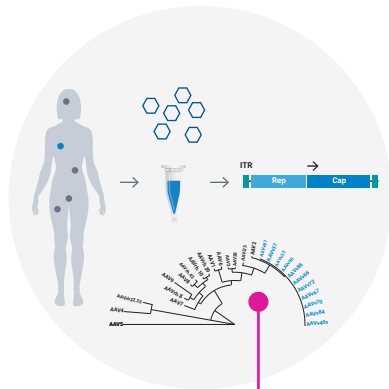


**Find host-cell genomics sequences** that are chimeric with inverted terminal repeat-containing vector sequences

## Leverage HiFi sequencing and Form Bio to accurately characterize your AAV product

### Phase 1: Discovery

Use HiFi reads to sequence tissues for novel AAV vector discovery

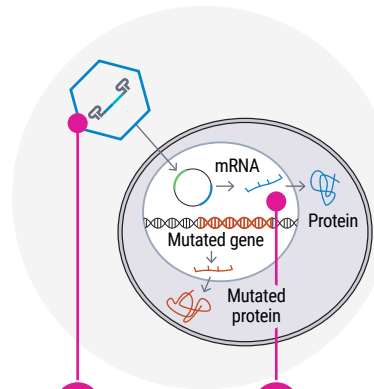


1

Identify novel AAV vectors

### Phase 2: Design

Use HiFi reads to improve vector design



2

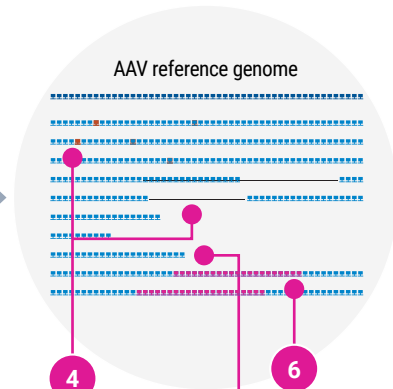
Identify fragmentation + truncation issues in vector design

3

Verify desired transcript is expressed

### Phase 3: Evaluate

Use HiFi reads to identify truncation, impurity, and host integration events



4

Identify impurities, including mismatches + structural variations

6

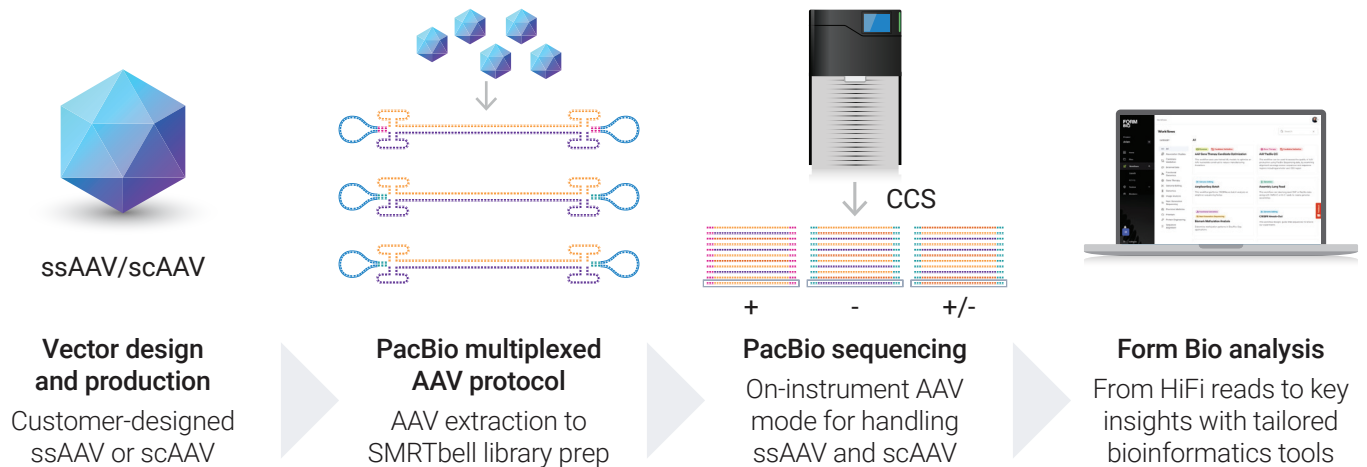
Identify host integration events

5

Identify truncation events

# An end-to-end workflow with PacBio and Form Bio

Save time and resources using established PacBio protocols and automated analysis with Form Bio



## Form Bio provides software and AI-based solutions that empower cell and gene therapy researchers to address their toughest challenges

A complete, easy-to-use, and fully serviced bioinformatics solution for secondary analysis of PacBio HiFi reads



**PacBio verified and compatible**



**Easy-to-use, point-and-click experience**



**PacBio-specific workflows for frequently performed analysis**



**Built-in toolbox for common, lower-level analysis tasks**



**Hands-on assistance from our experts when you need it**

### Form Bio makes it easy to:

- ✓ **Assess quality** of AAV production
- ✓ **Optimize** the nucleotide sequence of an AAV construct
- ✓ **Design guide RNA sequences** for genome-editing experiments
- ✓ **Assemble high-quality genomes** from whole genome sequencing data
- ✓ **Collaborate, visualize, and share results** in a secure, cloud-based platform



**Add long-read AAV sequencing to your research:**  
[pacb.com/gene-therapy](https://pacb.com/gene-therapy)



**Analyze PacBio data with Form Bio tools:**  
[formbio.com/pacbio](https://formbio.com/pacbio)

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