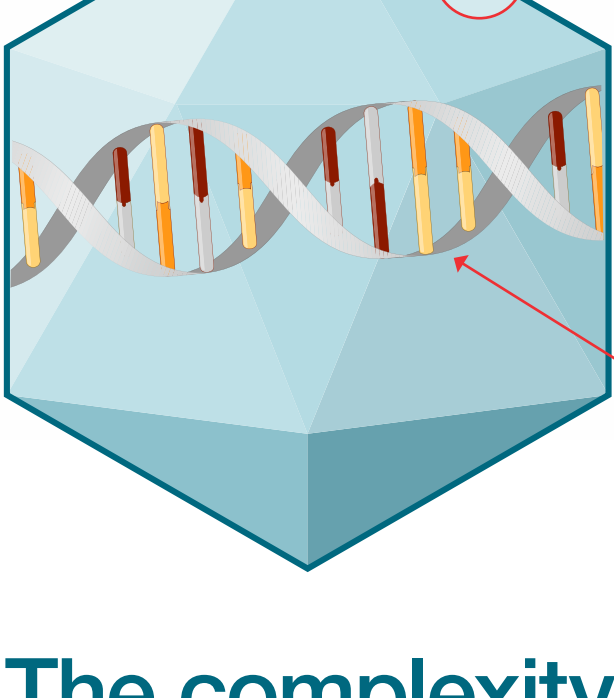
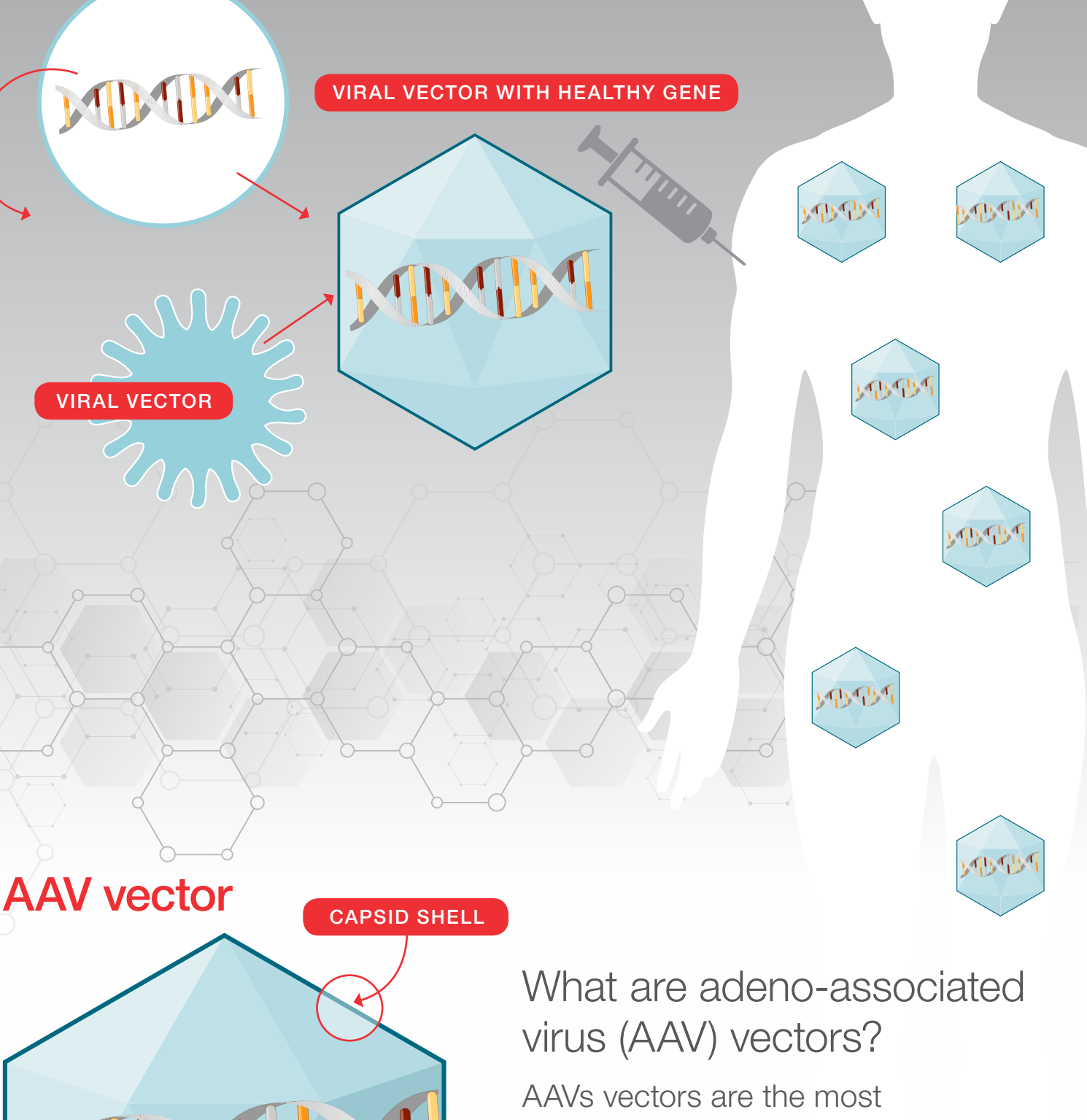


# Analytical solutions to accelerate your AAV gene therapy

Gene therapy holds great promise for a wide range of diseases, including cancers, cardiovascular diseases and thousands of rare hereditary diseases caused by gene mutations.

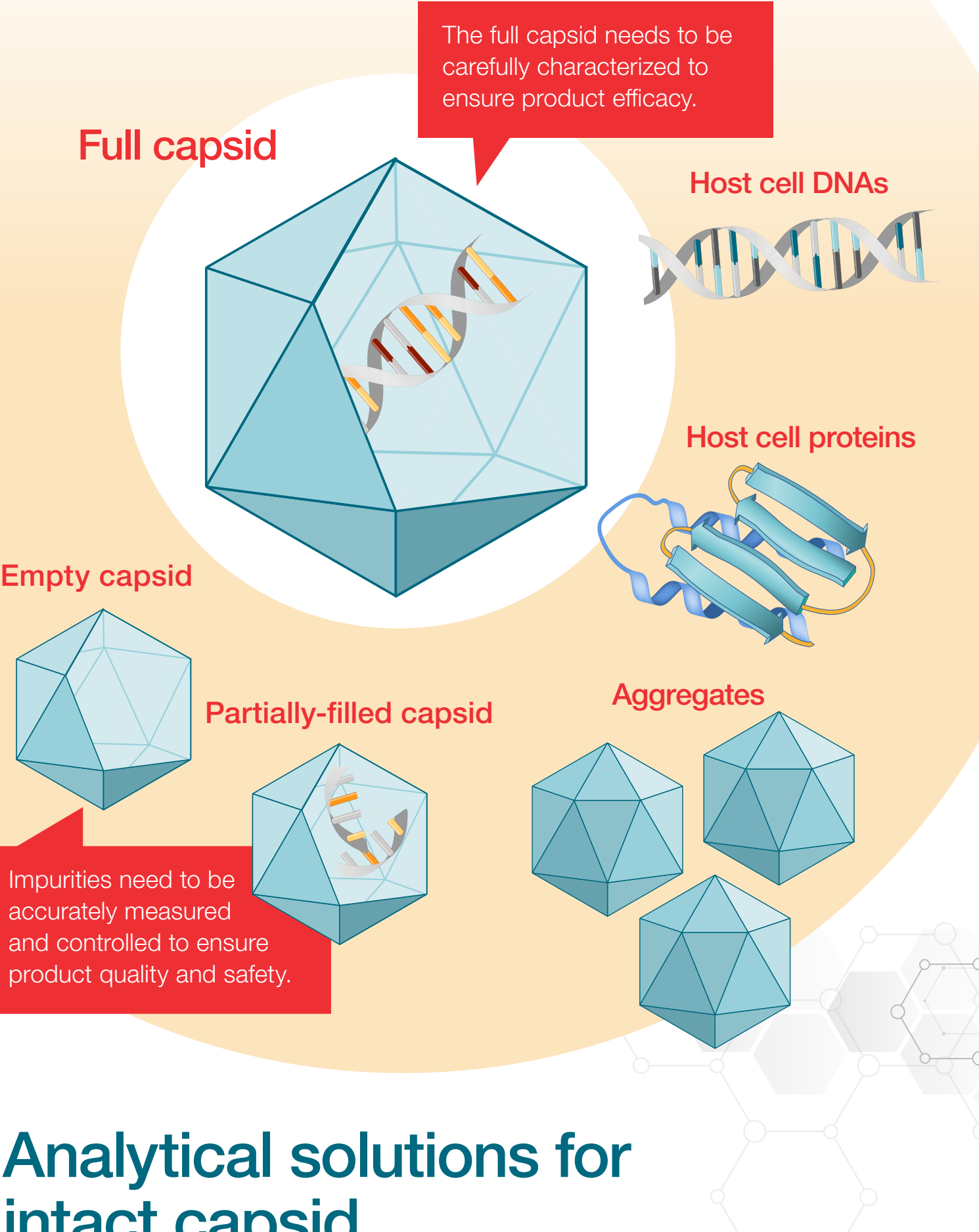


What are adeno-associated virus (AAV) vectors?

AAVs vectors are the most commonly used viral vectors to deliver the healthy gene, due to their low immunogenicity, safety and long-term transient expression.

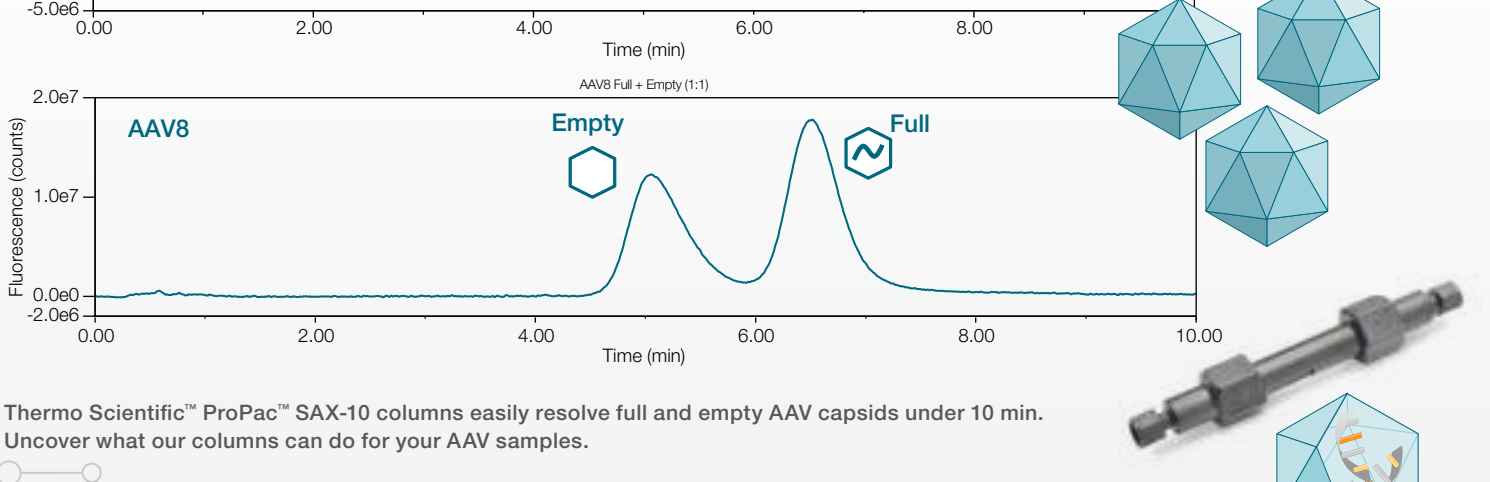
## The complexity of AAV gene therapy products

AAV based gene therapeutics are far more complex than many traditional biotherapeutics. Besides the full capsid containing the desired gene material, the final product could contain many different types of process and product related impurities.



## Analytical solutions for intact capsid

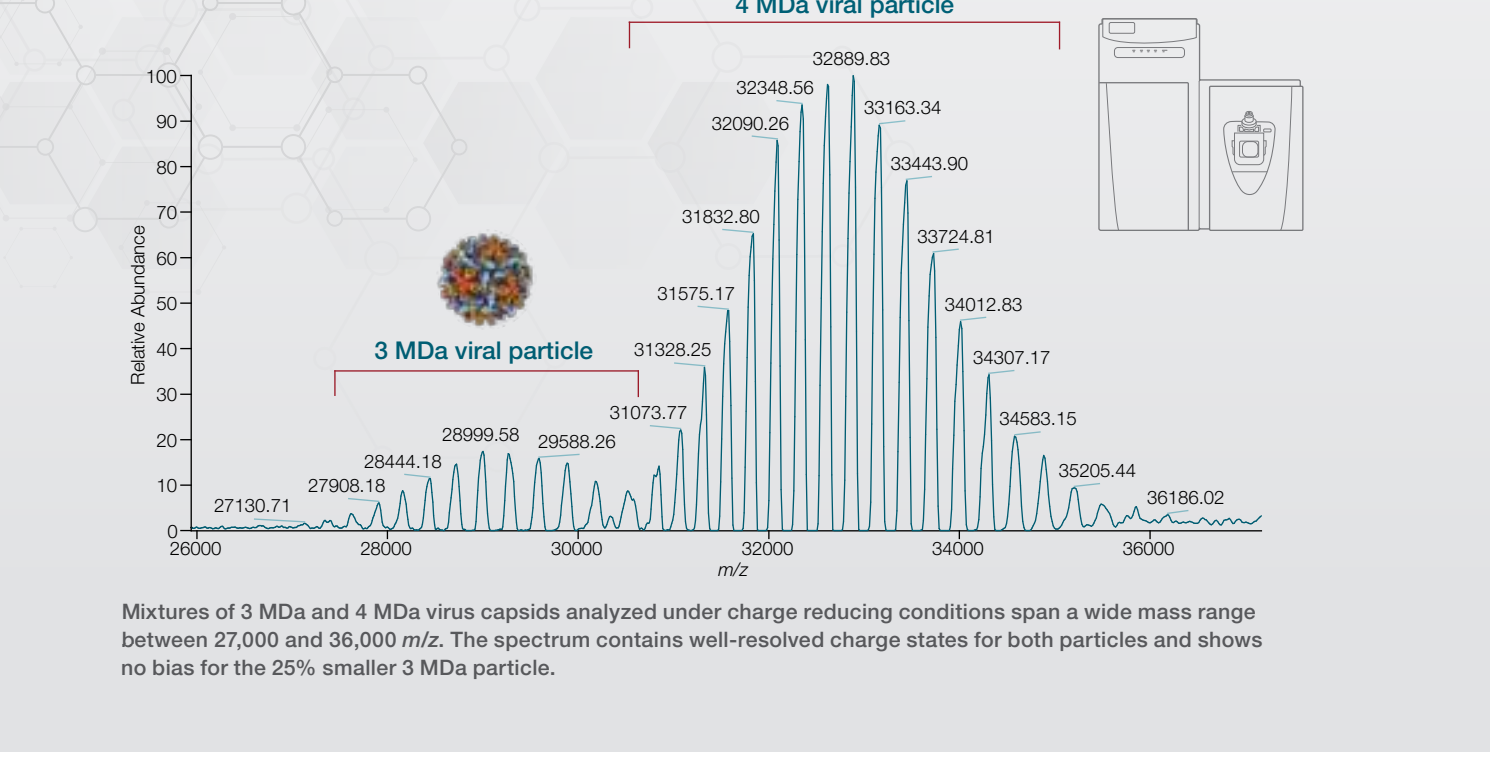
Accurate measurement of empty/full ratio



Thermo Scientific™ ProPac™ SAX-10 columns easily resolve full and empty AAV capsids under 10 min. Uncover what our columns can do for your AAV samples.

## Mass confirmation of intact capsid

Understand the heterogeneity at a new level

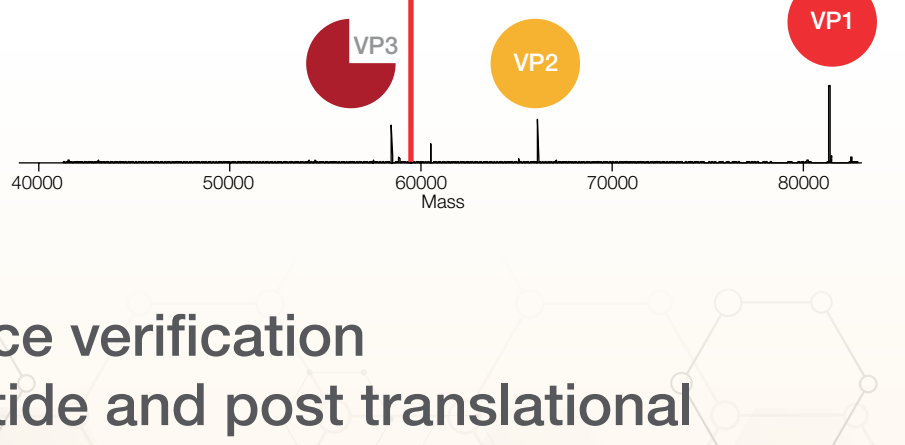


Mixtures of 3 MDA and 4 MDA virus capsids analyzed under charge reducing conditions span a wide mass range between 27,000 and 36,000 m/z. The spectrum contains well-resolved charge states for both particles and shows no bias for the 25% smaller 3 MDA particle.

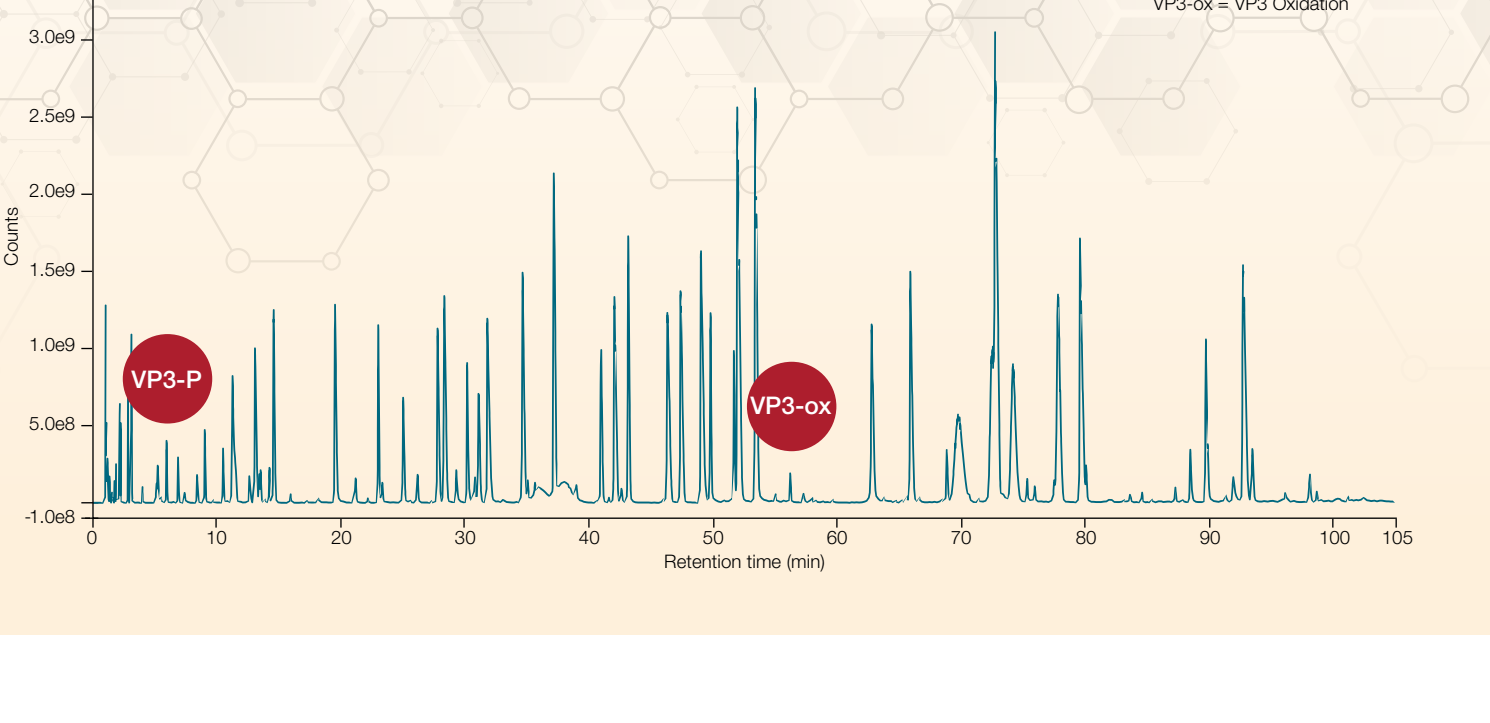
## Capsid characterization by LC-HRMS

Serotype confirmation by intact protein analysis

- Accurate molecular weight determination of capsid proteins at <10 ppm
- Confident identification of low abundant degradants at ng level through top-down sequencing



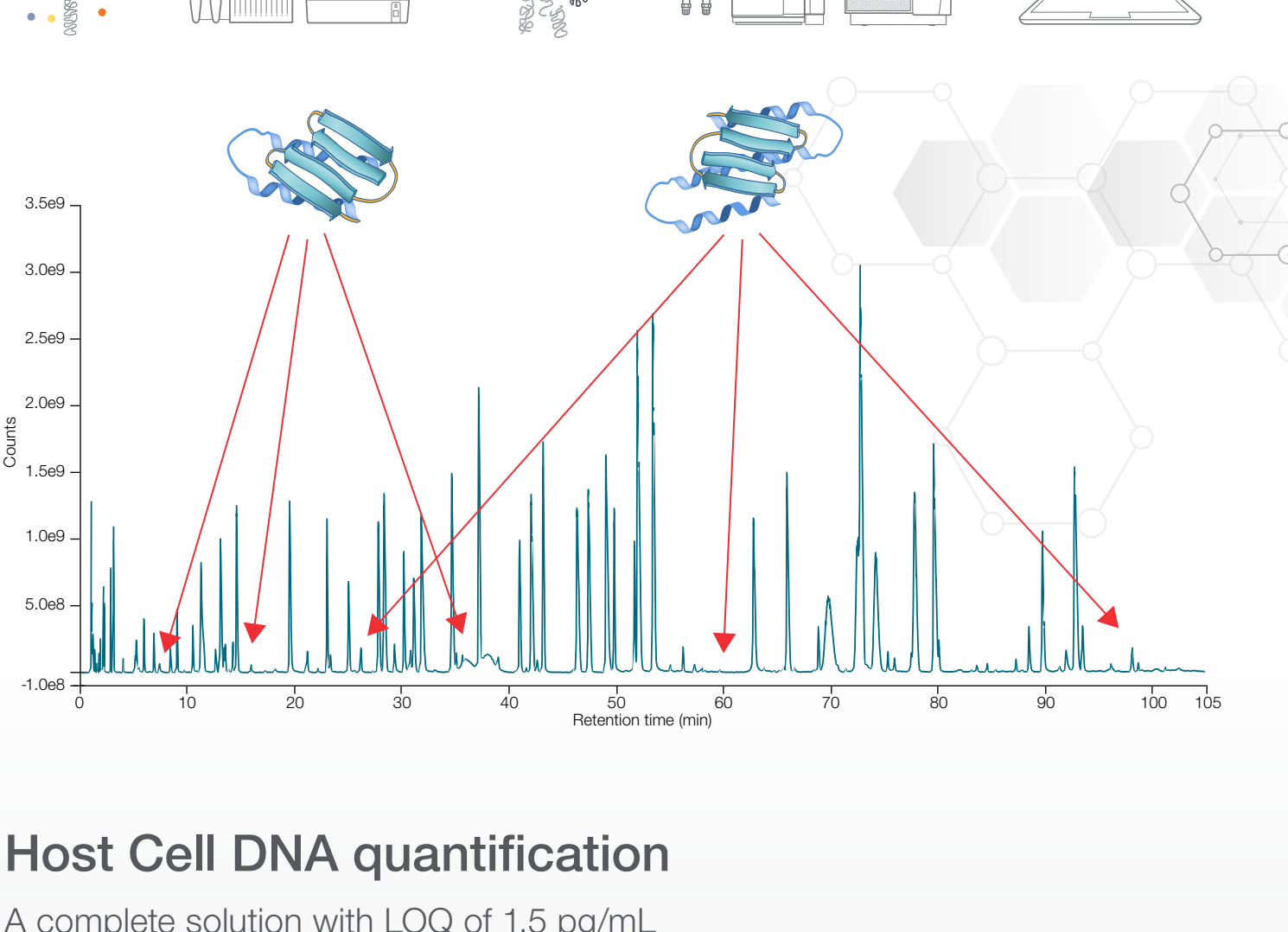
Complete sequence verification and sensitive peptide and post translational modification (PTM) characterization



## Process impurity characterization

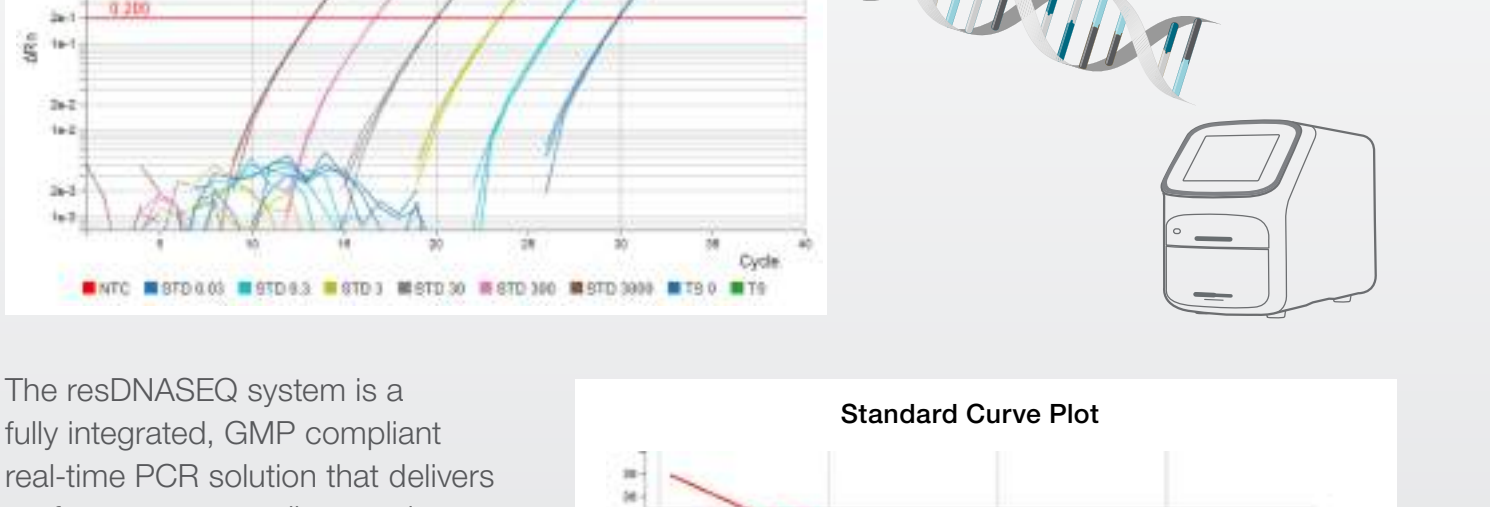
Host cell protein identification and quantification

Unbiased, sensitive and universal LC-HRMS solution with LOQ of <0.5 ppm

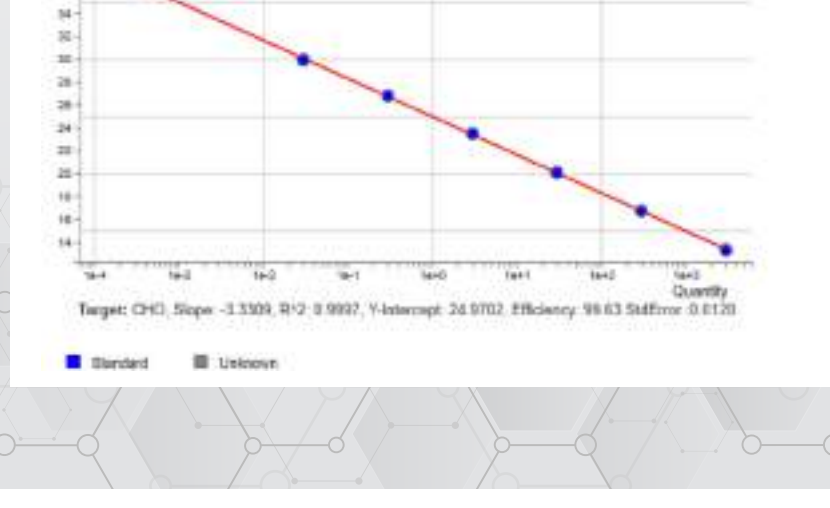


Host Cell DNA quantification

A complete solution with LOQ of 1.5 pg/mL



The resDNASEQ system is a fully integrated, GMP compliant real-time PCR solution that delivers performance exceeding regulatory requirements.



Find out more at [thermofisher.com/genetherapyanalysis](http://thermofisher.com/genetherapyanalysis)