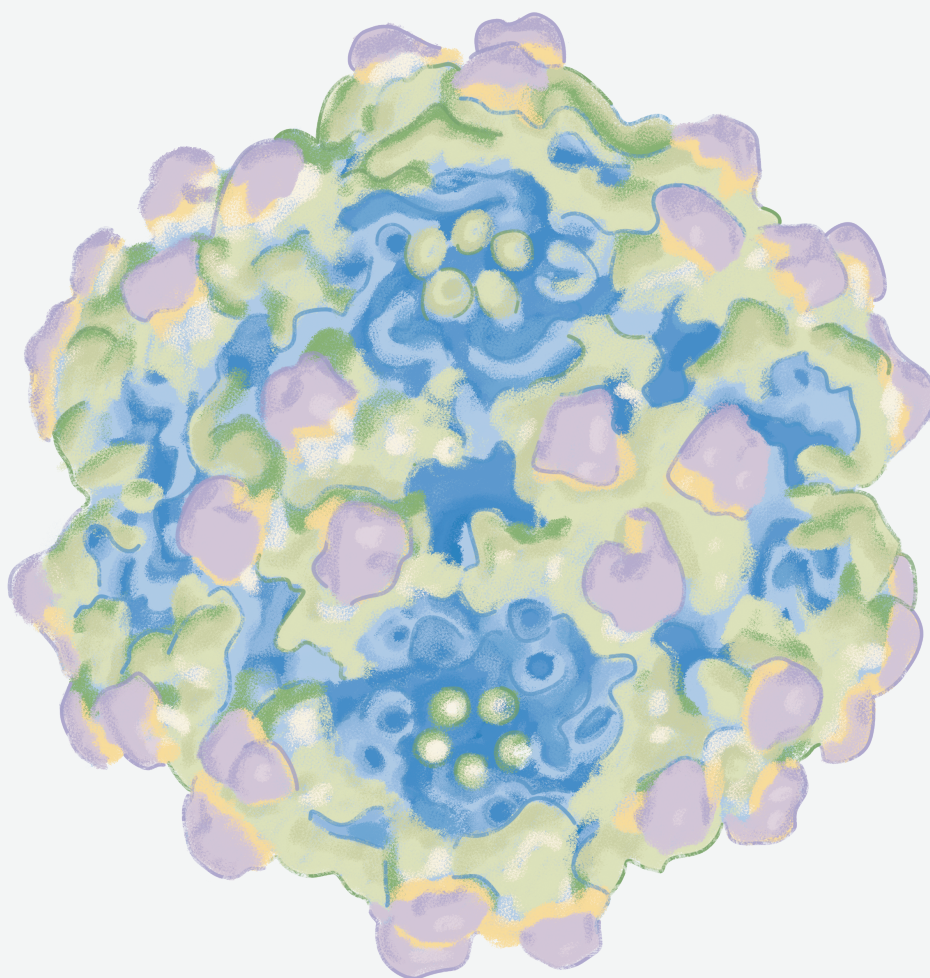


KACATUS

AAV Titration ELISA Kits



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Accurate, Reliable, and Specific Quantification of AAV Capsids

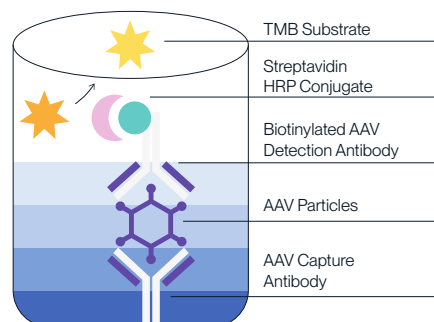
Detect full and empty AAV capsids specific to AAV2, AAV5, AAV6, AAV8, or AAV9 serotypes via ELISA.

With the rapid development of the gene therapy market using AAV as a vector, regulatory agencies are increasingly demanding stringent quality control (QC) testing for AAV drugs. Empty AAV capsids lacking the transgene of interest cause unwanted immune response without providing the therapeutic benefit of the transgene. Alongside DNA and infectious titers, determination of the capsid titer is crucial for validating the efficacy and safety of your AAV gene therapy.

Reliable and stable methods for quantifying AAV particle titer are essential to ensure the safety and effectiveness of AAV drugs. Among various methods for quantifying AAV particle titer, ELISA is widely used due to its high reproducibility and specificity, and is one of the titer determination methods recommended by regulatory agencies.

Sandwich ELISA Protocol with Optimized Antibodies

Our AAV Titration ELISA kits use a standard sandwich ELISA method utilizing exclusive AAV antibodies developed using our proprietary immunization scheme.



Product Advantages

Optimized Recombinant Monoclonal Antibodies.

Our AAV Titration ELISA kits using recombinant monoclonal antibodies developed using our proprietary immunization scheme that overcomes the weak AAV immunogenicity. This method maintains a remarkable level of consistency as the serum titers within the same group of mice consistently align. Across all AAV serotypes, our technique consistently elevates AAV anti-serum titers, resulting in the production of high-performance monoclonal antibodies.

High Specificity.

KACTUS proprietary AAV capsid antibodies recognize native, non-denatured AAV capsids (full and empty) for the quantification of intact AAV particles. They are also highly specific to each AAV serotype.

Broad Linear Range.

To ensure accurate quantification, minimizing the need for extensive sample dilution is essential to have a broad linear range in AAV Titration ELISA kits. Since the characteristics of the antibodies directly impact the kit's detection span, greater MAb sensitivity results in a more limited linear range. Consequently, we selected MAbs with extended detection ranges during the antibody screening process for the development of the KACTUS AAV titration ELISA kits.

High Accuracy.

Our KACTUS AAV Titration ELISA Kit exhibit recovery rates (%) in the range of 80-120%, in dilution buffer and cell lysate, indicating high accuracy with minimal interference from the diluent or matrix.

High Precision.

Our kits offer high intra-assay precision, with %CV less than 10% for high, medium, and low capsid sample concentrations.

Easy-to-Operate.

Our kits follow a standard sandwich antibody ELISA protocol with a pre-coated microtiter plate including single-break strips.

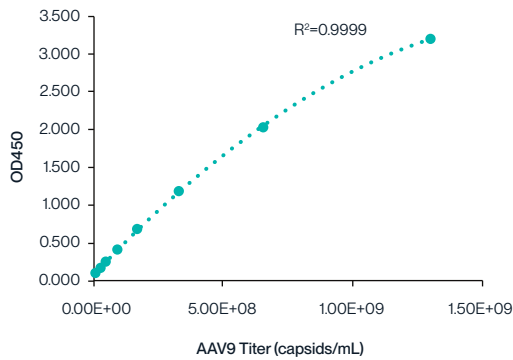
Product List

Catalog #	Product Description	Size
AV2-MM00B	AAV2 Titration ELISA Kit	96T
AV5-MM00B	AAV5 Titration ELISA Kit	96T
AV6-MM00B	AAV6 Titration ELISA Kit	96T
AV8-MM00B	AAV8 Titration ELISA Kit	96T
AV9-MM00B	AAV9 Titration ELISA Kit	96T

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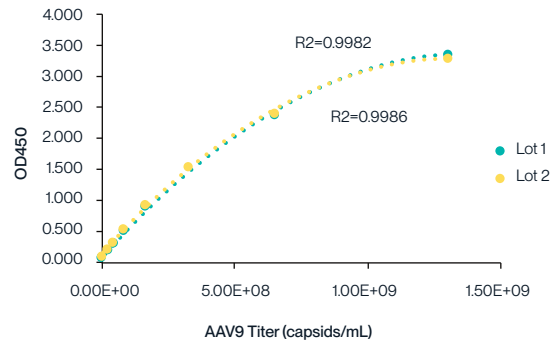
Wide Linear Range



Example standard curve for AAV9 Titration ELISA Kit.

The quantitative range of this kit is 2.03×10^7 - 1.3010^9 capsids/mL.

Batch Consistency

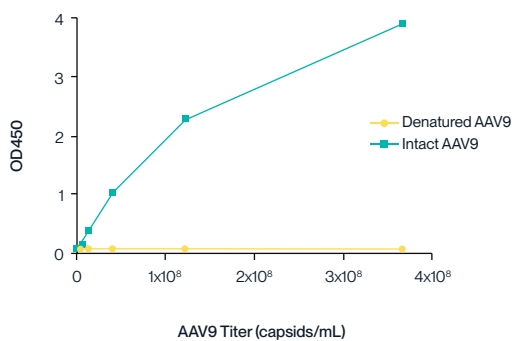


KACTUS AAV9 Titration ELISA kit standard curve tested across two batches.

The standard curve is highly reproducible and exhibits an $R^2 > 0.99$.

High Specificity

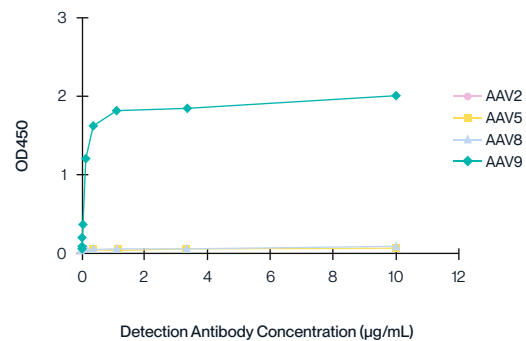
Specificity to intact capsids



The ELISA sandwich assay was used to detect the binding of AAV9 antibodies to intact and denatured AAV9 capsid proteins.

The AAV9 detection antibody does not exhibit binding to denatured AAV9 capsid protein.

Specificity to individual serotype



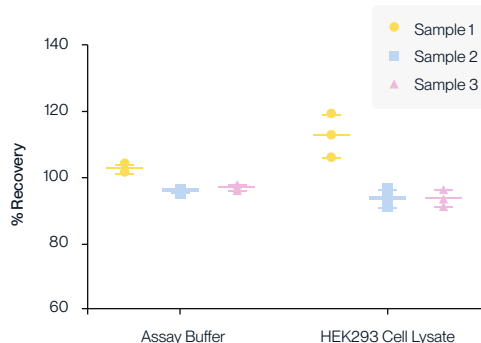
The cross-binding of different concentrations of AAV9 antibodies to capsid proteins of other serotypes (AAV2/5/8/9) was detected by indirect ELISA.

The AAV9 titration ELISA kit is highly specific to the AAV9 serotype and does not exhibit cross-reactivity with other AAV serotypes.

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High Accuracy



KACTUS AAV9 Titration ELISA kit was used to test the recovery rate of three AAV9 titers (high, medium, and low) in spiked dilution buffer (left) and HEK293 cell lysate (right).

The sample recovery rates of AAV9 samples with different titers detected in the dilution buffer and cell lysate were all between 80% and 120%, indicating that this kit has high accuracy in detecting AAV9 titers.

High Precision

Sample	# Runs	Average (capsids/mL)	Coefficient of Variation (%CV)
6.5E+08 capsids/mL	n=10	6.18E+08	2.80%
1.63E+08 capsids/mL	n=10	1.92E+08	1.90%
2.03E+07 capsids/mL	n=10	2.17E+07	5.90%

The same batch of AAV9 test kits were used to test three different titer AAV9 samples (high, medium and low). Each sample was tested 10 times. The average and coefficient of variation (%CV) of these 10 titer tests was calculated.

The %CV for all three sample concentrations (high, medium and low) was less than 10%, indicating that the AAV9 Titration ELISA kit has good intra-batch repeatability.

Product List

Catalog #	Product Description	Size
AV2-MM00B	AAV2 Titration ELISA Kit	96T
AV5-MM00B	AAV5 Titration ELISA Kit	96T
AV6-MM00B	AAV6 Titration ELISA Kit	96T
AV8-MM00B	AAV8 Titration ELISA Kit	96T
AV9-MM00B	AAV9 Titration ELISA Kit	96T

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