

## QuickTiter AAV Assay Kit

QuickTiter AAV Quantitation Kit

CATALOG #  
**AAA44600**

### PRODUCT SYNONYMS

QuickTiter AAV; QuickTiter AAV Quantitation Kit; QuickTiter AAV assay kit

### PRODUCT SPECIFICATIONS

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| <b>Preparation and Storage</b> | Store ViraBind AAV Reagent B at room temperature and all other kit components at 4 degree C until their expiration dates. |
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### ADDITIONAL INFORMATION

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| <b>Related Product Information for QuickTiter AAV assay kit</b> | <p>Background: Viral gene delivery systems include vectors developed from retrovirus (RV), adenovirus (AdV), adeno-associated virus (AAV), lentivirus (LV), and herpes simplex virus (HSV). AAV belongs to the family of Parvoviridae, a group of viruses among the smallest of single-stranded and non-enveloped DNA viruses. There are eight different AAV serotypes reported to date. Recombinant AAV-2 is the most common serotype used in gene delivery, and it can be produced at high titers with a helper virus or AAV Helper-Free System. AAV-2 can infect both dividing and non-dividing cells and can be maintained in the human host cell, creating the potential for long-term gene transfer. Because AAV-2 is a naturally defective virus, requiring provision of several factors in trans configuration for productive infection, it is considered the safest viral vector to use. Recently a new vector, AAV-DJ, was developed using DNA family shuffling to create a hybrid capsid from 8 different AAV serotypes, resulting in a vector with significantly higher in vitro infection rates across a variety of cells and tissues. Recombinant AAV-2 and AAV-DJ vectors can be purified by CsCl gradient ultracentrifugation, iodixanol discontinuous gradient ultracentrifugation, or ViraBind™ AAV Purification Kit. A particular challenge in the delivery of a gene by a viral vector is the accurate measurement of virus titer. Traditionally, AAV particles are measured by DNA dot blot or similar approaches. These methods are time-consuming and suffer from a high degree of inter-assay variability. For highly purified virus samples, an optical absorbance at 260 nm has been used to estimate the total number of virus particles. However this method cannot be used in an unpurified viral supernatant, because other components it contains can contribute to the optical absorbance of 260 nm. An ELISA method has been developed by using antibody that only reacts with AAV intact particles; however, this method measures all AAV particles including the ones lacking genomic DNA. Proprietary QuickTiter™ AAV Quantitation Kit does not involve cell infection; instead it specifically measures the viral nucleic acid content of purified viruses or unpurified viral supernatant sample (See Assay Principle). The kit is especially useful for determining the supernatant titer before the purification step. The kit has a detection sensitivity limit of 1 X 10<sup>9</sup> GC/mL (genome copy/mL) for unpurified AAV-2 or AAV-DJ supernatants, or 5 X 10<sup>10</sup> GC/mL for purified AAV sample from any serotype, which is sufficient for mid or high-titer AAV samples. The entire procedure takes about 4 hours for unpurified supernatant or about 30 minutes for purified AAV. Each kit provides sufficient quantities to perform up to 20 tests for unpurified AAV-2 or AAV-DJ samples generated from the AAV Helper-Free System. QuickTiter™ AAV Quantitation Kit provides an efficient system for rapid quantitation of AAV titer for both viral supernatant and purified virus.</p> |
| <b>Product Categories/Family for QuickTiter AAV assay kit</b>   | <b>Viral Expression; Adeno-Associated Virus (AAV) Expression; AAV Quantitation/Titer</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>References</b>                                               | <ol style="list-style-type: none"> <li>1. Rabinowitz, J, and Samulski, R. J. (1998) Curr. Opin. Biotechnol., 9, 470-475.</li> <li>2. Summer ford, C., and Samulski, R. J. (1999) Nat. Med., 5, 587-588.</li> <li>3. Clark, K., Liu, X., McGrath, J., and Johnson, P. (1999) Hum. Gene Ther., 10, 1031-1039.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

**For Research Use Only.** Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.