



Adenovirus Particle Assay

This protocol describes a simple assay to determine adenovirus particle number in purified virus. It cannot be used to determine particle number in unpurified or partially purified samples.

Required Equipment:

- Spectrophotometer capable of ultraviolet wavelengths 260 and 280
- Quartz cuvette
- SDS Buffer (0.2% SDS in PBS; 0.2 μm filtered)
- Water for Injection or Irrigation (WFI)
- Appropriate tubes, micropipettes and tips

Experimental Procedure:

1. Blank the spectrophotometer at 260 and 280 nm using PBS.
2. Mix your virus sample (may be diluted first in PBS) in proportions as follows:

100 μl virus
100 μl PBS
200 μl 0.2% SDS

3. Read the OD of your diluted virus sample at 260 and 280 nm. The ratio of 260:280 readings should be close to 1.3 for purified virus.
4. Calculate the particle number:
 OD_{260} reading \times dilution factor $\times 1.1 \times 10^{12}$ particles = number of particles per mL of sample.

Example: OD_{260} reading of 0.15
 $0.15 \times 4 \times 1.1 \times 10^{12} = 6.6 \times 10^{11}$ particles per mL of your sample

Reference:



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Mittereder N. et al. 1996. Evaluation of the concentration and bioactivity of adenovirus vectors for gene therapy. *J Virology* [70\(11\):7489-7509](#).