

# Recombinant Adenovirus Type 5 Particles, CMV/GFP-tagged

**Cat. No.** ADE-011    **Lot. No.** (See product label)

## SPECIFICATION

### Product Overview

This product is a concentrated source of highly-purified Adenovirus type 5 particles from a lysate of optimally-infected 293 cells, with an E1 and E3 deletion. Insertion of CMV-driven GFP gene in E1 region. Double CsCl gradient purification with DNase treatment and dialysis, this Ad5 preparation is of very high quality and minimal lot-to-lot variation.

### Tag

CMV&GFP

### Background

Adenoviruses are medium-sized (80–100 nm), non-enveloped viruses. They have an icosahedral nucleocapsid containing a linear, double-stranded DNA genome of approximately 36 kb (Nermut, 1984). The viral genome is grouped into different transcriptional units, designated early (E1, E2, E3, E4), intermediate, and late. The E1 gene is essential for activation of other viral genes and for viral replication. Deletion of the E1 gene results in viruses that are replication incompetent in normal cells. However, replication-competent viral particles can be produced from E1-deleted viral vectors by providing the E1 gene in trans. The E3 gene is nonessential for either viral replication or infection (Flint, 1999).

Adenovirus type 5 is one of the most extensively studied and characterized adenoviruses and is the type used most frequently in generating recombinant adenoviruses for gene therapy. These vectors generally contain deletions of the E1 and E3 genes, which allows for insertion and packaging of up to 7.5 kb of foreign DNA for gene delivery.

This recombinant human adenovirus type 5 expresses green fluorescent protein under the control of a CMV promoter. Green fluorescent protein (GFP) is a protein

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originally isolated from the jellyfish and fluoresces green when exposed to blue light. GFP allows the direct visualization of viral trafficking by fluorescence microscopy and can also be used to determine the transduction efficiency and to optimize viral infection conditions in specific cell types.

|                      |                                                                                                                                                                                                                                                  |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Purity</b>        | Double CsCl gradient purification with DNase treatment and dialysis                                                                                                                                                                              |
| <b>Formulation</b>   | PBS, 50 mM Hepes pH 7.8, 10% Glycerol                                                                                                                                                                                                            |
| <b>Storage</b>       | Store frozen at less than -20 centigrade, preferably -80 centigrade.                                                                                                                                                                             |
| <b>Concentration</b> | $1.63 \times 10^{12}$ particles per ml (Picogreen assay)                                                                                                                                                                                         |
| <b>Shipping</b>      | Dry ice                                                                                                                                                                                                                                          |
| <b>Notes</b>         | This product is intended for research and manufacturing uses only. It is not a diagnostic device. The user assumes all responsibility for care, custody and control of the material, including its disposal, in accordance with all regulations. |
| <b>Type</b>          | Recombinant                                                                                                                                                                                                                                      |
| <b>ClassID 1</b>     | Infectious Disease                                                                                                                                                                                                                               |

## GENE INFORMATION

**Synonyms** Adenovirus Type 5 Particles

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