pCMV-Gag-Pol Vector

CATALOG NUMBER: RV-111 **STORAGE:** -20ºC

QUANTITY AND CONCENTRATION: 10 µg at 0.25 µg/µL in TE

Background

Retroviruses are efficient tools for delivering heritable genes into the genome of dividing cells. Moloney Murine Leukemia Virus (MMLV)-based retroviral vector system is the most commonly used gene transfer vehicle. pCMV-Gag-Pol expresses the retroviral structure proteins under the control of the CMV immediate-early promoter. The gag region encodes genes which comprise the capsid proteins; the pol region encodes the reverse transcriptase and integrase proteins.

Retrovirus can be produced using one of the following methods:

1) Transfection of a retrovirus packaging cell line with a retrovirus expression vector. Packaging cell lines usually stably express gag, pol and env genes. For example, transfection of Plat-E packaging cell line (Cat. # RV-101) with a pMXs vector would produce an ecotropic retrovirus.
2) Cotransfection of a host cell with plasmids containing LTRs, Gag, Pol, Env. For example, cotransfection of 293RTV (Cat.# RV-100) with pMXs, pCMV-Gag-Pol (Cat. # RV-111) and pCMV-VSV-G (Cat. # RV-110) would produce VSVG-pseudotyped retrovirus.

   Note: We recommend cotransfection of expression vector:gag-pol vector:envelope vector at the following plasmid ratios:
   (a) For ecotropic or amphotropic retrovirus, 3:1:1
   (b) For VSVG-pseudotyped retrovirus, 3:1:0.5

The pCMV-Gag-Pol vector contains the ampicillin-resistance gene for propagation and antibiotic selection in bacteria (Figure 1).

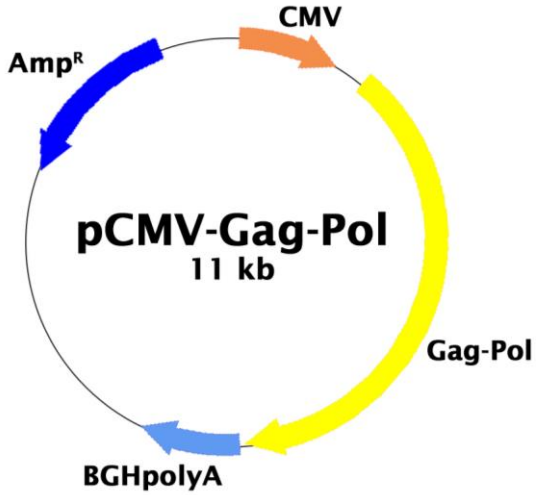

Figure 1. Schematic representation of pCMV-Gag-Pol vector.

Plasmid Digestion

Single digestion: XbaI or SacII

Double digestion: NotI and XbaI yield 7.2 kb and 3.5 kb

Safety Consideration

Remember that you will be working with samples containing infectious virus. Follow the recommended NIH guidelines for all materials containing BSL-2 organisms. Always wear gloves, use filtered tips and work under a biosafety hood.

References

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Recent Product Citations

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