

pCL-10A1 Retrovirus Packaging Vector

Catalog No.: NBP2-29542

Contents: 10 µg in 20 µl 1x TE (10 mM Tris, pH 7.5, 1 mM EDTA)

BACKGROUND:

The pCL-10A1 packaging vector is a part of the RetroMax expression system (Cat# NBP2-29499) and has been designed to maximize recombinant-retrovirus titers in a simple, efficient, and flexible experimental system. By introducing a retroviral vector into a cell expressing retroviral proteins, retroviral particles (virions) are shed into the culture medium at the rate of about 1 infectious particle/cell/day. Retrovirus tropism is determined at 3 levels. The first is simply a function of **viral envelope protein**, gp70. The envelope determines which cells the virus will enter. pCL-10A1 expresses 10A1 envelope protein that was isolated from a mouse infected with amphotropic MuLV (2,3). Retroviruses obtained by cotransfection with pCL-10A1 vector will infect most mammalian cells including hamster cells.

AMPLIFICATION: The plasmid DNA contains an ampicillin resistant gene. For large scale production, this plasmid may be amplified on LB plates containing 50 µg/ml ampicillin. The liquid cultures may be grown at 100 µg ampicillin/ml.

STORAGE:

For long-term storage, store at -20°C.

REFERENCES:

1. Naviaux, RK, Costanzi, E, Haas, M and Verma, I. The pCL vector system: Rapid production of helper-free, high titer, recombinant retroviruses. *J. Virol* 70: 5701-5705 (1996).
2. Rasheed, S., Pal, BK., and Gaedner, M. Characterization of highly oncogenic murine leukemia virus from wild mice. *Int. J. cancer* 29: 345-350 (1982).
3. Ott, D., Friederich, R., Rein, A. Sequence analysis of amphotropic and 10A1 murine leukemia viruses: Close relationship to mink cell focus-inducing viruses. *J. Virology* 64: 757-766 (1990).

Specificity of different envelope proteins.

Ecotropic (usually) (MoMuLV)	Mouse and rat cells only (not human)
Amphotropic (from 4070A MuLV)	Most mammalian cells (but not hamster)
10A1 (MuLV)	Most mammalian cells (including hamster)