



Restriction Map of pEco Retroviral Vector. Unique restriction sites are in bold.

Description

pEco Vector expresses the ecotropic envelope protein under the control of the CMV immediate-early promoter (1). The ecotropic envelope protein can serve as a surrogate viral envelope protein (2). It interacts on the host cell surface with the ecotropic receptor protein, murine cationic amino acid transporter-1 (MCAT-1) which facilitates rat or mouse host cell infection. pEco includes IVS, a synthetic intron known to enhance the stability of the mRNA (3), the pUC origin of replication, and the bacterial ampicillin resistance (Amp^r) gene for propagation and antibiotic selection in bacteria.

Use

As part of the Retro-X™ Universal Retroviral Expression System (Cat. No. 631530), pEco is cotransfected with a retroviral expression vector into the GP2-293 Packaging Cell Line (4) to produce infectious, replication-incompetent retrovirus. The genes encoding the viral *gag* and *pol* proteins are stably integrated into GP2-293, while the *env* gene is supplied by the pEco Vector. Although the resulting virus can infect target cell lines and transmit a gene-of-interest, it cannot replicate because target cell lines lack the viral structural and polymerase/integrase genes. The separate introduction and integration of the viral genes into the packaging cell line and the use of minimal viral sequences in the vector minimize the chance of producing replication-competent virus due to recombination events.



Clontech

United States/Canada
800.662.2566

Asia Pacific
+1.650.919.7300

Europe
+33.(0)1.3904.6880

Japan
+81.(0)77.543.6116

Clontech Laboratories, Inc.
A Takara Bio Company
1290 Terra Bella Ave.
Mountain View, CA 94043
Technical Support (US)
E-mail: tech@clontech.com
www.clontech.com

(100312)

Location of Features

- CMV promoter: 1–768
- Rabbit β -globin IVS: 768–1425
- Splicing signals
 - Splice Donor: 792–793; splice acceptor: 1363–1364
- Ecotropic envelope gene:
 - Start codon: 1438–1440; stop codon: 3508–3510
- β -globin poly A: 3541–3546
- pUC origin of replication: 4339–4348
- Ampicillin resistance gene (β -lactamase):
 - Start codon: 5964–5962; stop codon: 5101–5103

Propagation in E. coli

- Suitable host strains: DH5 α , Fusion-Blue™, and other general purpose strains.
- Selectable marker: plasmid confers resistance to ampicillin (100 μ g/ml) to E. coli hosts.
- E. coli replication origin: pUC
- Copy number: high

References

1. Yee, J. K., et al. (1994) Proc. Natl. Acad. Sci. USA 91:9564–9568.
2. Albritton, L. M., et al. (1989) Cell 57(4):659–666.
3. Huang, M. T. F. & Gorman, C. M. (1990) Nucleic Acids Res. 18(4):937–947.
4. Witte, O. N. & Baltimore, D. (1977) Cell 11:505–511.

Notes: Due caution must be exercised in the production and handling of recombinant retrovirus. Appropriate NIH, regional, and institutional guidelines apply.

The attached sequence file has been compiled from information in the sequence databases, published literature, and other sources, together with partial sequences obtained by Clontech Laboratories. This vector has not been completely sequenced.

General Notice to Purchaser

Clontech products are to be used for research purposes only. They may not be used for any other purpose, including, but not limited to, use in drugs, in vitro diagnostic purposes, therapeutics, or in humans. Clontech products may not be transferred to third parties, resold, modified for resale, or used to manufacture commercial products or to provide a service to third parties without prior written approval of Clontech Laboratories, Inc.

Your use of this product is also subject to compliance with the licensing requirements described on the product's web page at <http://www.clontech.com>. It is your responsibility to review, understand and adhere to any restrictions imposed by these statements.

Clontech and the Clontech logo are trademarks of Clontech Laboratories, Inc. All other marks are the property of their respective owners. Certain trademarks may not be registered in all jurisdictions. Clontech is a Takara Bio Company. ©2012 Clontech Laboratories, Inc.

This document has been reviewed and approved by the Clontech Quality Assurance Department.