Certificate of Analysis

pGL4.78[*hRlucCP*/Hygro] Vector:

Part No.	Size
E696A	20µg

Instructions for use of this product can be found in the pGL4 Vectors Technical Manual #TM259, available online at: **www.promega.com/protocols**

Part# 9PIE696
Revised 8/13

Description: The pGL4.78[*hRlucCP*/Hygro] Vector[a–d] encodes the luciferase reporter gene *hRlucCP* (*Renilla reniformis*) and is designed for high expression and reduced anomalous transcription. This vector also contains a mammalian selectable marker for hygromycin resistance in which the number of transcription factor binding sites has been reduced and mammalian codon usage optimized. The pGL4 Vectors are engineered with fewer consensus regulatory sequences than the pGL3 Vectors and a synthetic reporter gene that has been codon optimized for mammalian expression.

The pGL4.78[*hRlucCP*/Hygro] Vector is a basic vector with no promoter. However, it contains a multiple cloning region that allows cloning of a promoter of choice. The *hRlucCP* reporter gene contains two protein destabilization sequences, hCL1 and hPEST. The protein encoded by *hRlucCP* responds more quickly and with greater magnitude to changes in transcriptional activity than the *hRluc* gene, its more stable counterpart.

Concentration: 1µg/µl.

GenBank® Accession Number: AY864933.

Storage Buffer: The pGL4.78[*hRlucCP*/Hygro] Vector is supplied in 10mM Tris-HCl (pH 7.4), 1mM EDTA.

Storage Conditions: See the product information label for storage temperature recommendations. Avoid multiple freeze-thaw cycles and exposure to frequent temperature changes. These fluctuations can greatly alter product stability. See the expiration date on the product information label.

Usage Notes:

1. For easy transfer from one pGL4 Vector to another, the multiple cloning region is consistent throughout the pGL4 Vector series. For easy transfer between pGL3 Vectors and pGL4 Vectors, many of the restriction enzyme sites present in the pGL3 Vectors are also present in the pGL4 Vectors.
2. Concentration gradients may form in frozen products and should be dispersed upon thawing. Mix well prior to use.

Quality Control Assays

Nuclease Assay: Following incubation of 1µg of pGL4.78[*hRlucCP*/Hygro] Vector in standard restriction digest buffers at 37°C for 16–24 hours, no evidence of nuclease activity is detected by agarose gel electrophoresis.

Physical Purity: $A_{260}/A_{280} \geq 1.80$, $A_{260}/A_{250} \geq 1.05$ at pH 7.4.

Sequence: The pGL4.78[*hRlucCP*/Hygro] Vector has been completely sequenced and has 100% identity with the published sequence, available at: **www.promega.com/vectors**

Signed by: J. Stevens

J. Stevens, Quality Assurance

Promega Corporation
2800 Woods Hollow Road
Madison, WI 53711-5399 USA
Telephone 608-274-4330
Toll Free 800-356-9526
Fax 608-277-2516
Internet www.promega.com

[a]**BY USE OF THIS PRODUCT, RESEARCHER AGREES TO BE BOUND BY THE TERMS OF THIS LIMITED USE LABEL LICENSE**. If the researcher is not willing to accept the terms of this label license, and the product is unused, Promega will accept return of the unused product and provide the researcher with a full refund.

Researchers may use this product for research use only, no commercial use is allowed. "Commercial use" means any and all uses of this product and derivatives by a party for money or other consideration and may include but is not limited to use in: (1) product manufacture; and (2) to provide a service, information or data; and/or resale of the product or its derivatives, whether or not such product or derivatives are resold for use in research. Researchers shall have no right to modify or otherwise create variations of the nucleotide sequence of the luciferase gene except that researchers may: (1) create fused gene sequences provided that the coding sequence of the resulting luciferase gene has no more than four deoxynucleotides missing at the affected terminus compared to the intact luciferase gene sequence, and (2) insert and remove nucleic acid sequences in splicing research predicated on the inactivation or reconstitution of the luminescence of the encoded luciferase. No other use or transfer of this product or derivatives is authorized without the prior express written consent of Promega. In addition, researchers must either: (1) use luminescent assay reagents purchased from Promega for all determinations of luminescence activity of this product and its derivatives; or (2) contact Promega to obtain a license for use of the product and its derivatives. Researchers may transfer derivatives to others for research use provided that at the time of transfer a copy of this label license is given to the recipients and recipients agree to be bound by the terms of this label license. With respect to any uses outside this label license, including any diagnostic, therapeutic or prophylactic uses, please contact Promega for supply and licensing information. PROMEGA MAKES NO REPRESENTATIONS OR WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING FOR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH REGARDS TO THE PRODUCT. The terms of this label license shall be governed under the laws of the State of Wisconsin, USA. This label license relates to Promega patents and/or patent applications on improvements to the luciferase gene.

[b]Patent pending.

[c]U.S. Pat. No. 7,906,282 and European Pat. No. 1341808.

[d]U.S. Pat. No. 7,728,118.

Part# 9PIE696
Printed in USA. Revised 8/13.

pGL4.78[*hRlucCP*/Hygro] Vector Features List and Maps

hRlucCP reporter gene	100–1212
SV40 late poly(A) signal	1249–1470
SV40 early enhancer/promoter	1518–1936
Synthetic hygromycin (Hyg^r) coding region	1961–2998
Synthetic poly(A) signal	3022–3070
Reporter Vector primer 4 (RVprimer4) binding region	3137–3156
*Col*E1-derived plasmid replication origin	3394
Synthetic β-lactamase (Amp^r) coding region	4185–5045
Synthetic poly(A) signal/transcriptional pause site	5150–5303
Reporter Vector primer 3 (RVprimer3) binding region	5252–5271

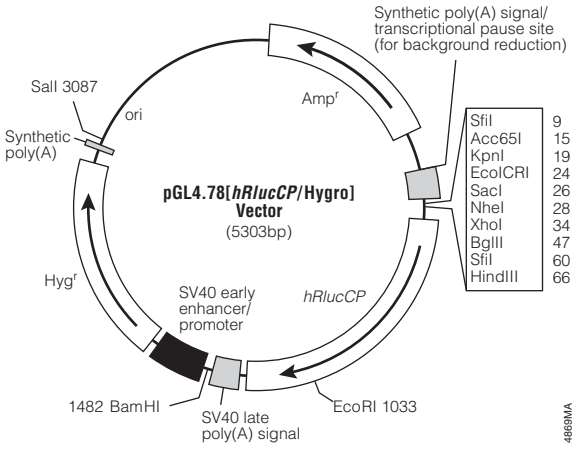

Figure 1. pGL4.78[*hRlucCP*/Hygro] Vector map.

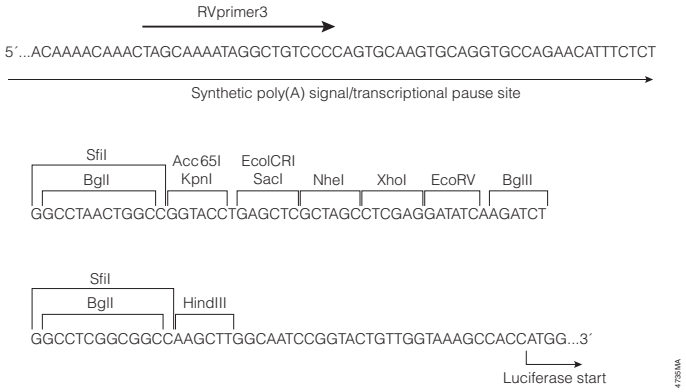

Figure 2. Multiple cloning region for the pGL4.78[*hRlucCP*/Hygro] Vector.

Part# 9PIE696
Printed in USA. Revised 8/13.