

## Certificate of Analysis

### pGL4.16[*luc2CP*/Hygro] Vector:

Part No.                      Size  
E671A                         20µg

Part# 9PIE671  
Revised 10/16



Instructions for use of this product can be found in the pGL4 Luciferase Reporter Vectors Technical Manual #TM259, available online at: [www.promega.com/protocols/](http://www.promega.com/protocols/)

**Description:** The pGL4.16[*luc2CP*/Hygro] Vector<sup>(#-d)</sup> encodes the luciferase reporter gene *luc2CP* (*Photinus pyralis*) 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. This vector is also engineered with fewer consensus regulatory sequences for reduced background and a decreased risk of anomalous transcription and has a synthetic reporter gene that is codon-optimized for mammalian expression.

The pGL4.16[*luc2CP*/Hygro] Vector is a basic vector with no promoter. However, the vector contains a multiple cloning region to allow cloning of a promoter of choice. The *luc2CP* reporter gene contains two protein destabilization sequences: hCL1 and hPEST. The protein encoded by *luc2CP* responds more quickly and with greater magnitude to changes in transcriptional activity than the *luc2* gene, its more stable counterpart.

**Concentration:** 1µg/µl.

**GenBank® Accession Number:** AY864930.

**Storage Buffer:** The pGL4.16[*luc2CP*/Hygro] Vector is supplied in 10mM Tris-HCl (pH 7.4), 1mM EDTA.

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

#### 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.



AF9PIE671 1016E671



## Promega

#### 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               | <a href="http://www.promega.com">www.promega.com</a> |

## Quality Control Assays

**Nuclease Assay:** Following incubation of 1µg of pGL4.16[*luc2CP*/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 pGL4.16[*luc2CP*/Hygro] Vector has been completely sequenced and has 100% identity with the published sequence, available at: [www.promega.com/vectors/](http://www.promega.com/vectors/)

#### PRODUCT USE LIMITATIONS, WARRANTY, DISCLAIMER

Promega manufactures products for a number of intended uses. Please refer to the product label for the intended use statements for specific products. Promega products contain chemicals which may be harmful if misused. Due care should be exercised with all Promega products to prevent direct human contact.

Each Promega product is shipped with documentation stating specifications and other technical information. Promega products are warranted to meet or exceed the stated specifications. Promega's sole obligation and the customer's sole remedy is limited to replacement of products free of charge in the event products fail to perform as warranted. Promega makes no other warranty of any kind whatsoever, and SPECIFICALLY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES OF ANY KIND OR NATURE WHATSOEVER, DIRECTLY OR INDIRECTLY, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, AS TO THE SUITABILITY, PRODUCTIVITY, DURABILITY, FITNESS FOR A PARTICULAR PURPOSE OR USE, MERCHANTABILITY, CONDITION, OR ANY OTHER MATTER WITH RESPECT TO PROMEGA PRODUCTS. In no event shall Promega be liable for claims for any other damages, whether direct, incidental, foreseeable, consequential, or special (including but not limited to loss of use, revenue or profit), whether based upon warranty, contract, tort (including negligence) or strict liability arising in connection with the sale or the failure of Promega products to perform in accordance with the stated specifications.

©BY USE OF THIS PRODUCT, RESEARCHER AGREES TO BE BOUND BY THE TERMS OF THIS LIMITED USE LABEL LICENSE.

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, and (2) insert and remove nucleic acid sequences in splicing research. No other use or transfer of this product or derivatives is authorized. 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. For any uses outside this label license, contact Promega for supply and licensing information. This product is for research use only; no commercial use is allowed. For a full copy of this label license, including the definition of "commercial use," go to: [www.promega.com/LULL](http://www.promega.com/LULL)

©Patent Pending.

©U.S. Pat. No. 8,008,006 and European Pat. No. 1341808.

©U.S. Pat. No. 7,728,118.

© 2005–2009, 2013, 2015, 2016 Promega Corporation. All Rights Reserved.

GenBank is a registered trademark of US Department of Health and Human Services.

Products may be covered by pending or issued patents or may have certain limitations. Please visit our Web site for more information.

All specifications are subject to change without prior notice.

Product claims are subject to change. Please contact Promega Technical Services or access the Promega online catalog for the most up-to-date information on Promega products.

Part# 9PIE671  
Printed in USA. Revised 10/16.

Signed by:

R. Wheeler, Quality Assurance

**pGL4.16[*luc2CP*/Hygro] Vector Features List and Maps**

|   |           |
|---|-----------|
| Multiple cloning region                                 | 1–70      |
| <i>luc2CP</i> reporter gene                             | 100–1929  |
| SV40 late poly(A) signal                                | 1966–2187 |
| SV40 early enhancer/promoter                            | 2235–2653 |
| Synthetic hygromycin (Hyg <sup>r</sup> ) coding region  | 2678–3715 |
| Synthetic poly(A) signal                                | 3739–3787 |
| Reporter Vector primer 4 (RVprimer4) binding region     | 3854–3873 |
| <i>ColEI</i> -derived plasmid replication origin        | 4111      |
| Synthetic β-lactamase (Amp <sup>r</sup> ) coding region | 4902–5762 |
| Synthetic poly(A) signal/transcriptional pause site     | 5867–6020 |
| Reporter Vector primer 3 binding region                 | 5969–5988 |

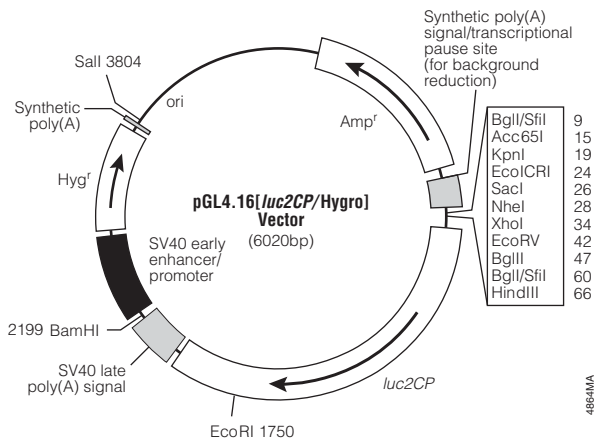


Figure 1. pGL4.16 Vector circle map.

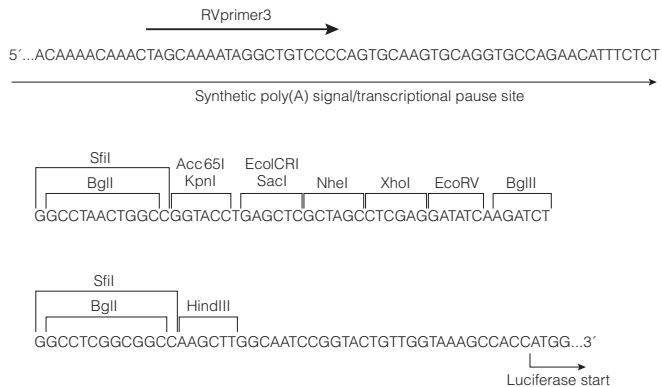


Figure 2. The multiple cloning region of the pGL4 Vectors.

Sequence information and restriction enzyme tables for the pGL4 Vectors are available online at: [www.promega.com/vectors/](http://www.promega.com/vectors/)

Further information on the use of pGL4 Vectors is available in Technical Manual #TM259, which is available online at: [www.promega.com/protocols/](http://www.promega.com/protocols/)