

## Certificate of Analysis

### pGL4.16[*Luc2CP*/Hygro] Vector:

Part No.                      Size  
E671A                         20µg



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)

Part# 9PIE671  
Revised 6/13

**Description:** The pGL4.16[*Luc2CP*/Hygro] Vector<sup>(a-e)</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 has been codon optimized for mammalian expression.

The pGL4.16[*Luc2CP*/Hygro] Vector is a basic vector with no promoter. However, it 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.



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**Promega**

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## 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)

Signed by:

J. Stevens, Quality Assurance

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<sup>(b)</sup>U.S. Pat. No. 5,670,356.

<sup>(c)</sup>U.S. Pat. No. 8,008,006 and European Pat. No. 1341808.

<sup>(d)</sup>Patent Pending.

<sup>(e)</sup>The method of recombinant expression of *Coleoptera* luciferase is covered by U.S. Pat. Nos. 5,583,024, 5,674,713 and 5,700,673. A license (from Promega for research reagent products and from The Regents of the University of California for all other fields) is needed for any commercial sale of nucleic acid contained within or derived from this product and from The Regents of the University of California for all other fields) is needed for any commercial sale of nucleic acid contained within or derived from this product.

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**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

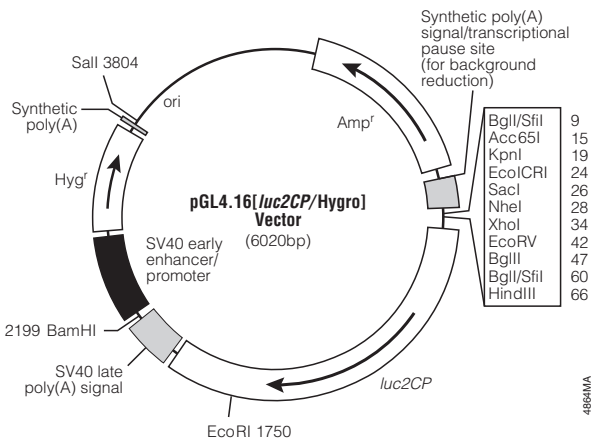


Figure 1. pGL4.16 Vector circle map.

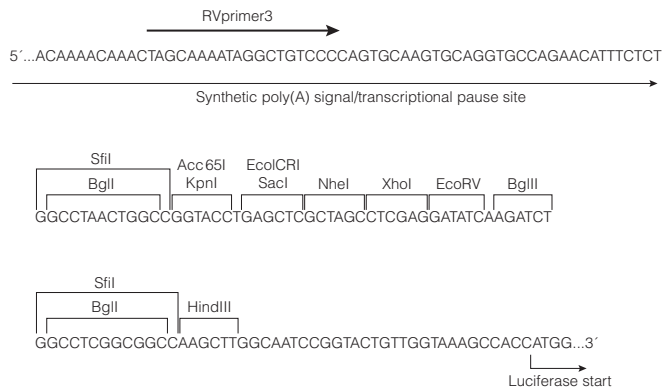


Figure 2. The multiple cloning region of the pGL4 Vectors.

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)