

# pTK-GLuc Vector



1-800-632-7799  
info@neb.com  
www.neb.com



N8084S 006150518051

## N8084S

20 µg Lot: 0061505 Exp: 5/18  
0.5 µg/µl Store at -20°C

**Description:** The pTK-GLuc Vector contains the coding sequence for the secreted *Gaussia* luciferase (GLuc) under the control of the Herpes Simplex Virus (HSV) thymidine kinase (TK) promoter, for constitutive expression in mammalian cells. It contains multiple cloning sites after the GLuc open reading frame (i.e. in the 3' untranslated region) that can be used to insert heterologous sequences. Such constructs can be used for RNA studies including RNA stability, siRNA potency/efficacy, etc. by measuring the GLuc activity (1).

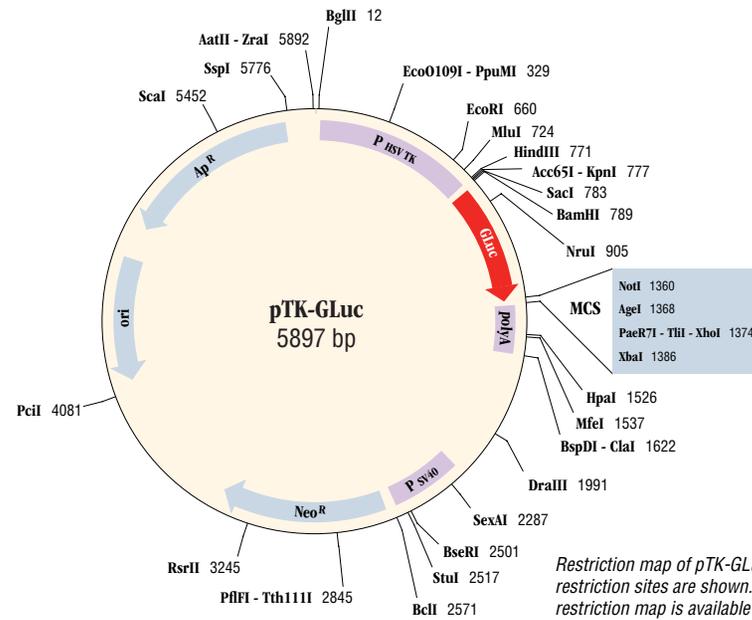
*Gaussia* luciferase is a new reporter luciferase from the marine copepod *Gaussia princeps* (2,3). This luciferase, which does not require ATP, catalyzes the oxidation of the substrate coelenterazine in a reaction that emits light (470 nm).

**Source:** Isolated from *E. coli* strain NEB 10-beta by a standard DNA purification procedure.

Supplied in: 10 mM Tris-HCl (pH 7.5 @ 25°C), 1 mM EDTA.

### Advantages:

- GLuc possesses a natural secretory signal and upon expression is secreted into the growth medium. Therefore, **lysis of the cells is not necessary** before assaying the activity. This allows for multiple samples to be assayed at different time points from the same transfected cells.
- GLuc generates over 1000-fold higher bioluminescent signal intensity than Firefly and *Renilla* luciferases, making it an ideal sensitive transcriptional reporter (3).
- The secreted GLuc is very stable and can be stored for several days at 4°C without loss of activity.



Restriction map of pTK-GLuc Vector. Only unique restriction sites are shown. The complete sequence and restriction map is available at: [http://www.neb.com/nebecomm/tech\\_reference/](http://www.neb.com/nebecomm/tech_reference/) (see other side)

CERTIFICATE OF ANALYSIS

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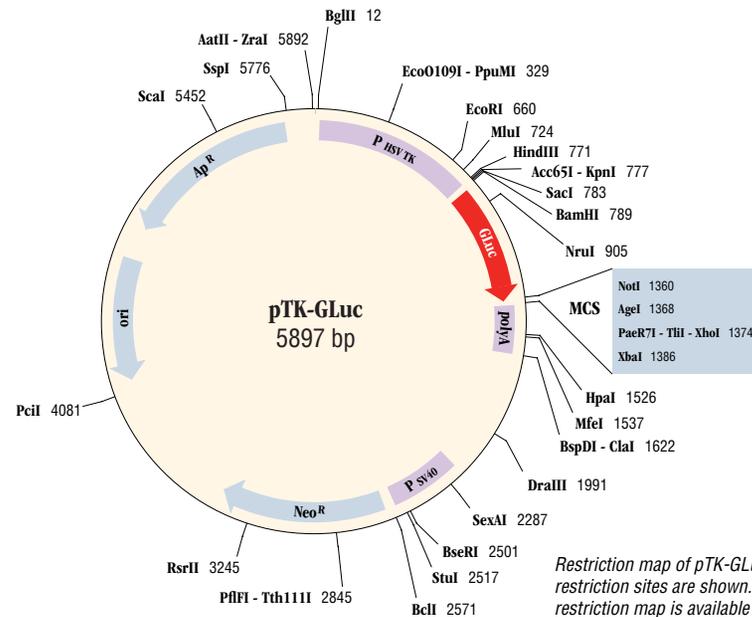
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#### pTK-GLuc Vector MCS

NotI AgeI XhoI XbaI  
GGGCCGGTGGTGACTAAGCGGCCGCACCGGTCTCGAGCATGCATCTAGA  
...A G G D \*

#### GLuc

*pTK-GLuc multiple cloning site (MCS). The Gaussia Luciferase sequence is shown with a blue background. Only unique restriction sites are shown.*

#### Features of pTK-GLuc Vector:

- Constitutive expression of secreted GLuc
- MCS at the 3' untranslated region of GLuc
- Neomycin resistance

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#### References:

1. Morlighem, J.E., Petit, C. and Tzertzinis, G. (2007) *Biotechniques* 42, 599–614.
2. Verhaegen, M. and Christopoulos, T.K. (2002) *Anal. Chem.* 74,4378–4385.
3. Tannous, B.A., Kim, D.E., Fernandez, J.L., Weissleder, R., and Breakefield, X.O. (2005) *Mol. Ther.* 11, 435–443.

#### Companion Products Sold Separately:

<i>Gaussia</i> Luciferase Assay Kit	
#E3300S	100 assays
#E3300L	1,000 assays
pGLuc-Basic Vector	
#N8082S	20 µg
pCMV-GLuc Control Plasmid	
#N8081S	20 µg
TransPass™ D2 Transfection Reagent	
#M2554S	0.6 ml
#M2554L	3.0 ml

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