



A division of Gene Therapy Systems, Inc.

## gWIZ Luciferase Mammalian Expression Vector

### PRODUCT SUMMARY

**Cat. No:** P030200

**Description:** gWIZ vectors represent a new series of plasmids that have been engineered to produce the highest levels of transgene expression in a wide range of mammalian cells and tissues. It contains a proprietary modified promoter followed by the intron A from the human cytomegalovirus (CMV) immediate early gene and a high-efficiency artificial transcription terminator. The expression vector is constructed in the context of a plasmid backbone extensively modified to achieve the enhanced levels of transgene expression in mammalian cells as well as high efficiency of plasmid production in *E. coli*.

**Components:** 25 µg gWIZ luciferase plasmid in  
25 µl sterile TE buffer.

**Storage:** Store at -20°C.

**Comments:** gWIZ is suitable for in vitro and in vivo gene expression studies and applications. Use KANAMYCIN selection to grow the plasmid in *E. coli*

### INTRODUCTION

The CMV immediate early gene (IE) promoter/enhancer is the most widely used constitutive promoter for expressing high levels of transgene product in many mammalian cells and tissues. However, not all CMV IE gene promoter/enhancer-based expression vectors are created equal. Depending on the actual CMV IE gene sequences used and the context of the plasmid backbone upon which the expression cassette is constructed, the expression levels can vary as much as two orders of magnitude. The CMV IE promoter sequences contained in the gWIZ vectors have been systemically analyzed and modified. The modifications include removing the sequences that are redundant and deleterious to the high levels of expression while retaining those sequences that are of high transcriptional potency. After coupling the modified promoter with a high-efficiency synthetic transcriptional terminator, the whole expression cassette is finally constructed on a plasmid backbone that has also been streamlined and modified to accommodate the high levels of

expression in mammalian cells as well as high yield of plasmid production in *E. coli*. The resulting plasmid, gWIZ expression vector, is capable of fully unleashing the potential of the CMV promoter and giving the highest levels of expression possible both *in vitro* and *in vivo*.

### USAGE

- For extremely high levels of transgene expression in mammalian cells and tissues
- Can be used with GenePORTER<sup>®</sup> 2 (Cat. # T202015) to transfect a wide variety of mammalian cells and tissues

### DETECTION OF THE EXPRESSED GENE

The level of luciferase expression can be measured using the luciferase assay kit according to the standard instructions from the manufacturer (Promega, Madison, WI).

### RELATED PRODUCTS

Product	Cat. Nos.
gWIZ Blank	P000200
gWIZ β-gal	P010200
gWIZ CAT	P020200
gWIZ GFP	P040400
gWIZ Secreted AP	P050200
gWIZ HBsAg	P070200

GenePORTER <sup>®</sup> 2 Transfection Reagent	
75 transfections (0.75 ml)	T202007
150 transfections (1.5 ml)	T202015

BoosterExpress<sup>™</sup> Reagents T20100B

TurboCells<sup>®</sup> Chemically Competent *E. coli*  
C300020

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