Genlantis

A division of Gene Therapy Systems, Inc.

gWIZ GFP Mammalian Expression Vector

PRODUCT SUMMARY

Cat. No: P040400

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 proprietarily 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 trangene expression in mammalian cells as well as high efficiency of plasmid production in *E. coli*.

Components: 25 µg gWIZ GFP 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 as 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 trangene 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 2 (Cat. # T202007 or T202015) to transfect a wide variety of mammalian cells and tissues

DETECTION OF THE EXPRESSED GENE

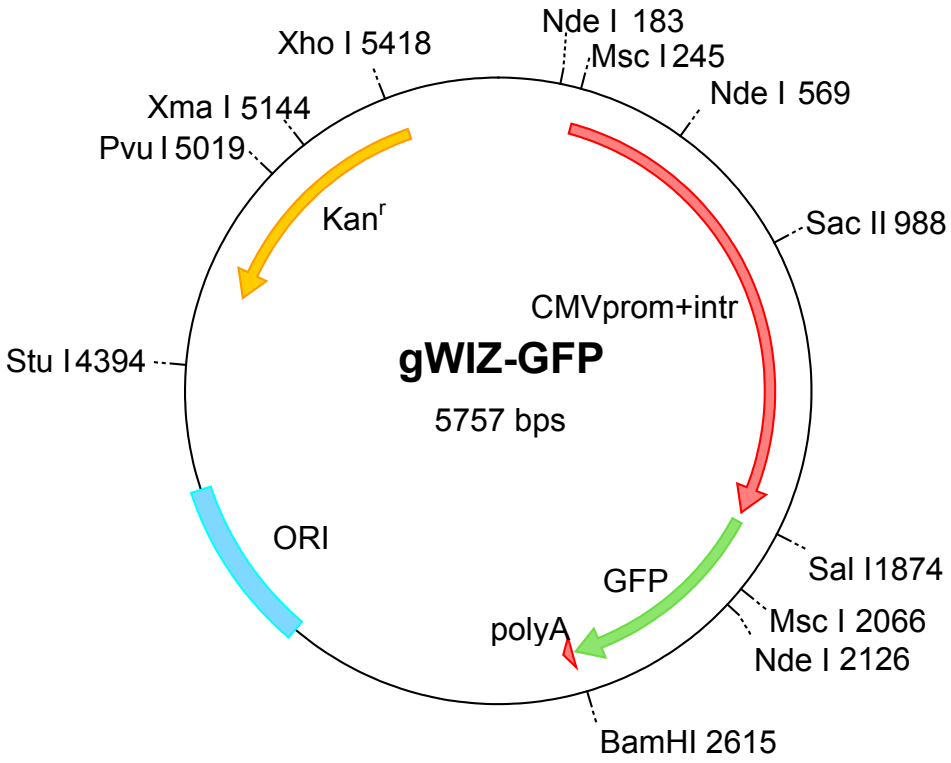
Green Fluorescent Protein: For transfections conducted with plasmids encoding GFP, the detection can be done by epifluorescence or confocal microscopy. The GFP produced has an excitation peak at 470-480 nm and emission peak at 510 nm. Expression level of GFP can also be monitored by fluorescence-activated cell sorter analysis as described by L. Cheng *et al.* * The gWIZ-GFP plasmid contains a modified and much brighter version of green fluorescent protein gene.

*Cheng, L. *et al*. (1996) Use of green fluorescent protein variants to monitor gene transfer and expression in mammalian cells. *Nature Biotechnology* **14**, 606-609.

RELATED PRODUCTS

Product	Cat. Nos.
gWIZ Blank Vector	P000200
gWIZ β-Gal Vector	P010200
gWIZ CAT Vector	P020200
gWIZ Luciferase Vector	P030200
gWIZ Secreted AP Vector	P050200
phCMV1 Vector Kit	P003100
phCMV2 Vector Kit	P003200
phCMV3 Vector Kit	P003300
phCMV-GFP FSR Vector	P003400
phCMV-Luciferase FSR Vector	P003500
TurboCells® Chemically Competent *E. coli*	C300020
SmartCells™ Chemically Competent *E. coli*	C101020
GenePORTER® 2 Transfection Reagent	
75 transfections (0.75 ml)	T202007
150 transfections (1.5 ml)	T202015

Figure 1: Map of gWiz GFP Vector



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