Genlantis

A division of Gene Therapy Systems, Inc.

gWIZ β-Galactosidase Mammalian Expression Vector

PRODUCT SUMMARY

Cat. No: P010200

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 β-galactosidase 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 reagent (Cat. # T202007 or T202015) to transfect a wide variety of mammalian cells and tissues

DETECTION OF THE EXPRESSED GENE

The level of β-galactosidase expression can be determined by a colorimetric assay as described by Jiin Felgner *et al**. An immonuhistochemical approach for β-galactosidase quantification has also been reported by E. Gussoni *et al.***

*Felgner, J.H. *et al.* (1994) Enhanced gene delivery and mechanism studies with a novel series of cationic lipid formulations. *J. Biol. Chem.* **269**, 2550-2561.

Gussoni, E. *et al.* (1996) A method to codetect introduced genes and their products in gene therapy protocols. *Nature Biotechnology* **14: 1012-1015.

RELATED PRODUCTS

Product	Cat. Nos.
gWIZ Blank	P000200
gWIZ CAT	P020200
gWIZ Luciferase	P030200
gWIZ GFP	P040400
gWIZ Secreted AP	P050200

GenePORTER® 2 Transfection Reagent	
75 transfections (0.75 ml)	T202007
150 transfections (1.5 ml)	T202015

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