

pVectOZ-LacZ (β -Galactosidase Expression Vector)

Description

The pVectOZ-LacZ vector has been created to produce the highest levels of β -Galactosidase expression in a broad range of mammalian cells and tissues. It contains a proprietary modified human cytomegalovirus (CMV) promoter followed by a specific intron, enhancer and a terminator. The expression vector is engineered in an optimized plasmid backbone to achieve the highest levels of transgene expression in mammalian cells and high copy number production in *Escherichia coli*.

Kit contents

Ref. #PL00130
100 μ g pVectOZ-LacZ (encoding for β -Galactosidase) plasmid in 100 μ l sterile TE buffer.

Storage

Store at -20°C.

Selection Marker

Kanamycin is the selection gene included for producing the plasmid in *Escherichia coli*.

Applications

pVectOZ-LacZ (β -Galactosidase) vector is suitable for all transfection applications (in vitro & in vivo).

Presentation. The transgene expression level depends mainly on the promoter, enhancer, terminator and plasmid backbone. The pVectOZ-LacZ expression cassette was designed to express very high levels of transgene product in many mammalian cells and tissues. This vector has been modified to eliminate sequences affecting transgene expression levels while optimizing those critical for high levels of expression. The final expression cassette accommodates the high levels of transgene expression in mammalian cells as well as high yield of plasmid production in *Escherichia coli*. The resulting plasmid is the ideal vector to reach high levels of expression in vitro and in vivo.

Use. For high levels of transgene expression in mammalian cells and tissues. For optimal results, this vector can be used with all OZ Biosciences transfection reagents to transfect a wide variety of mammalian cells and tissues.

β -Galactosidase detection

LacZ is one of the most frequently used reporter gene in transfection experiments because of the gene product specific properties. Indeed, the LacZ encoded protein, β -galactosidase, is very stable, resistant to proteolytic degradation and easily tested. The levels of active β -galactosidase expression can be quickly measured by colorimetric assays:

- CPRG (Chlorophenol red- β -D-galactopyranoside) assay kit (catalog # GC10002)
- ONPG (o-nitrophenyl- β -D-galactopyranoside) assay kit (catalog # GO10001)

The levels of active β -galactosidase expression can also be detected by histochemistry:

- X-gal staining kit (catalog # GX10003). It allows to visualize β -gal expression, through hydrolysis of X-Gal which yields a blue precipitate. Thus, transfected cells appear blue and can be visualized by microscopy.

References

1. Felgner, J. *et al.* (1994). *J. Biol. Chem.* **269**: 2550.
2. Gussoni, E. *et al.* (1996). *Nature Biotech.* **14**: 1012.
3. Liu, M. *et al.* (2003). *Methods Mol Biol.* **235**: 289-96.
4. Nazarenko, DA. *et al.* (2001). *Biotechniques*, **4**: 776.
5. Tanahashi, H. *et al.* (2000). *Anal Biochem.* **279**: 122.

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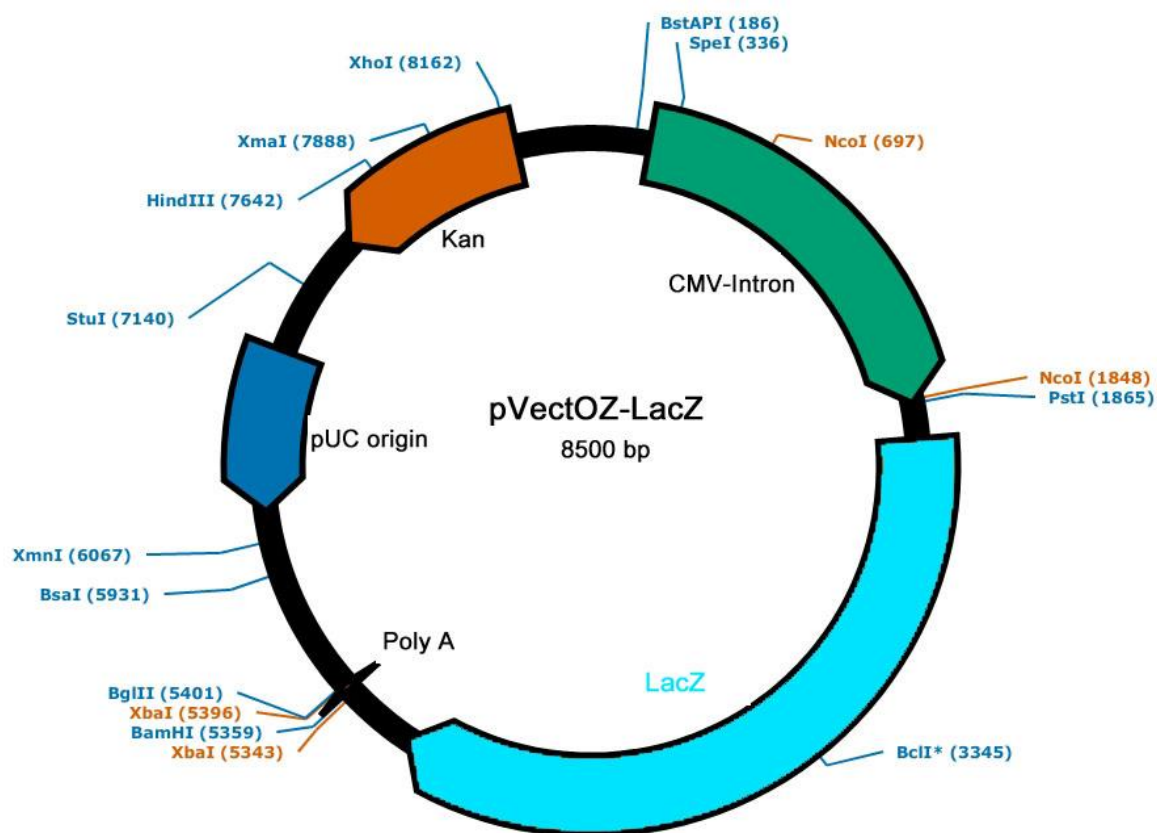


www.bocascientific.com

(781) 686-1631

info@bocascientific.com

Plasmid Map



Related Products

Description	Reference	Description	Reference
Magnetofection Technology		Gene & Protein Tools	
Mega Magnetic Plate	MF14000	Bradford – Protein Assay Kit	BA00100
Super Magnetic Plate	MF10000	GeneBlaster selection kit	GB20010
Magnetic Plate 96-magnets	MF10096	β-Galactosidase (ONPG) assay kit	GO10001
PolyMag 1 mL (for all nucleic acids)	PN31000	β-Galactosidase (CPRG) assay kit	GC10002
PolyMag Neo 1 mL (for all nucleic acids)	PG61000	X-Gal Staining Kit	GX10003
CombiMag 1 mL (boost transfection reagent)	CM21000	Plasmids	
SilenceMag 500µL (for siRNA applications)	SM10500	pVectOZ-CAT 25µg	PL00010
NeuroMag 1 mL (for neuron transfection)	NM51000	pVectOZ-GFP 25µg	PL00020
		pVectOZ-LacZ 25µg	PL00030
		pVectOZ-Luc 25µg	PL00040
		pVectOZ-SEAP 25µg	PL00050
		pVectOZ-CAT 100µg	PL00110
		pVectOZ-GFP 100µg	PL00120
		pVectOZ-Luc 100µg	PL00140
		pVectOZ-SEAP 100µg	PL00150
Lipofection (lipid-based reagents)			
DreamFect Gold Transfection reagent 1mL	DG81000		
DreamFect Transfection reagent 1mL	DF41000		
Lullaby siRNA Transfection reagent 1mL	LL71000		
VeroFect Transfection Reagent 1mL	VF61000		
FlyFectin Transfection Reagent 1mL	FF51000		