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## pVectOZ-SEAP (Secreted Alkaline Phosphatase Expression Vector)

### Description

The pVectOZ-SEAP vector has been created to produce the highest levels of Secreted Alkaline Phosphatase 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. #PL00050  
25 µg pVectOZ-SEAP (encoding for Secreted Alkaline Phosphatase) plasmid in 25 µl 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-SEAP (Secreted Alkaline Phosphatase) 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-SEAP 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.

### SEAP detection

48 hours after transfection, collect the supernatants from transfected cells and heat them at 65°C for 30 minutes to

inactivate endogenous alkaline phosphatase activity. The SEAP activity is quantitatively measured by using a colorimetric assay based on hydrolysis of the chromogenic substrate para-nitrophenyl phosphate (PNPP). 1 mg/ml of PNPP reagent is prepared in 1mM MgCl<sub>2</sub>, 1M Diethanolamine, pH 9.8. Then, 10 µl of 0.05% Zwittergent® in PBS (Ca<sup>2+</sup> and Mg<sup>2+</sup> free) is added to each well of a 96-well plate, and mixed with 20 µL of the heated cell culture media. For control wells, 20 µL of water is used to normalize the volume. An alkaline phosphatase (AP) standard (EIA grade calf intestine alkaline phosphatase) can be used to generate a standard curve from 1 to 100 pg per well. Thereafter, the enzymatic reaction starts by adding, 200 µL of the PNPP substrate to each well and incubate at room temperature for 5-45 minutes prior to analysis. The use of 0.05% Zwittergent® in PBS as the diluent nearly reduces the background to zero, which increases the sensitivity of the assay. The plates are read at 405 nm using either kinetic or static settings.

### References

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2. Yang, TT. *et al.* (1997). *Biotechniques.* **23**: 1110.
3. Kain, SR. *et al.* (1997). *Methods Mol Biol.* **63**: 49.
4. Liu, M. *et al.* (2003). *Methods Mol Biol.* **235**: 289.
5. Chalberg, T. *et al.* (2005). *Encyclopedia Life Sciences.*
6. Ufer, C. *et al.* (2008). *Gene Dev.* **22**: 1838.

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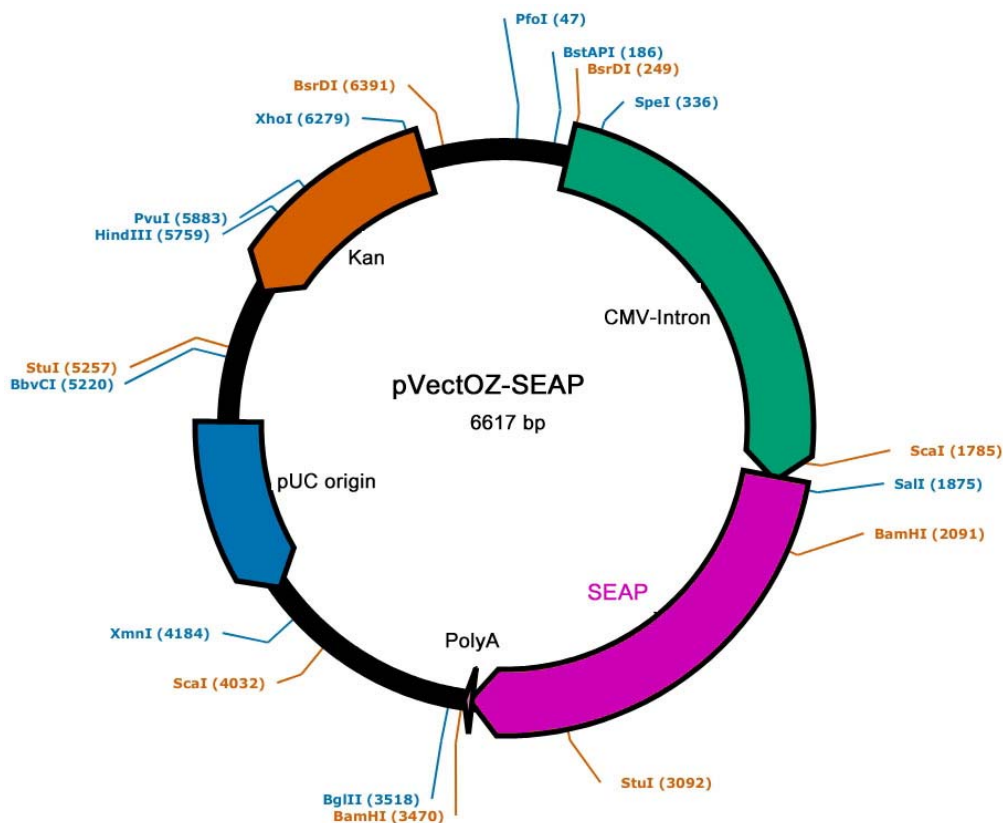
Please, feel free to contact us for all complementary information and remember to visit our website ([www.ozbiosciences.com](http://www.ozbiosciences.com)) to stay informed on the latest breakthrough technologies and updated on our complete product list.

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## Plasmid Map



## Related Products

| Description                               | Reference | Description                      | Reference |
|---|-----------|----------------------------------|-----------|
| <b>Magnetofection Technology</b>          |           | <b>Gene &amp; Protein Tools</b>  |           |
| 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 1mL (for all nucleic acids)       | PN31000   | β-Galactosidase (CPRG) assay kit | GC10002   |
| PolyMag Neo 1mL (for all nucleic acids)   | PG61000   | X-Gal Staining Kit               | GX10003   |
| CombiMag 1mL (boost transfection reagent) | CM21000   | <b>Plasmids</b>                  |           |
| SilenceMag 500μL (for siRNA applications) | SM10500   | pVectOZ-CAT 25μg                 | PL00010   |
| NeuroMag 1mL (for neuron transfection)    | NM51000   | pVectOZ-GFP 25μg                 | PL00020   |
|   |           | pVectOZ-LacZ 25μg                | PL00030   |
|   |           | pVectOZ-Luc 25μg                 | PL00040   |
| <b>Lipofection (lipid-based reagents)</b> |           | pVectOZ-CAT 100μg                | PL00110   |
| DreamFect Gold Transfection reagent 1mL   | DG81000   | pVectOZ-GFP 100μg                | PL00120   |
| DreamFect Transfection reagent 1mL        | DF41000   | pVectOZ-LacZ 100μg               | PL00130   |
| Lullaby siRNA Transfection reagent 1mL    | LL71000   | pVectOZ-Luc 100μg                | PL00140   |
| VeroFect Transfection Reagent 1mL         | VF61000   | pVectOZ-SEAP100μg                | PL00150   |
| FlyFectin Transfection Reagent 1mL        | FF51000   |                                  |           |