

# Data sheet

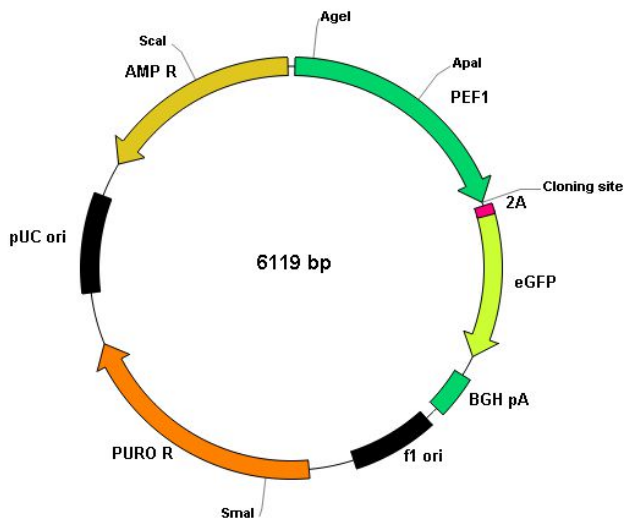
## pOnebyOne®-IV-Puro

Cat. No: ME0004-P (20 reactions)

### Description

pOnebyOne®-IV-Puro mammalian expression vector contains an expression cassette based in 2A sequence. 2A sequence allows multiple proteins to be encoded as polyproteins and unlike IRES based vectors both proteins are produced in stoichiometric proportion.

The expression cassette of pOnebyOne®-IV-Puro contains the human elongation factor 1 alpha promoter that precedes 2A sequence in frame with green fluorescent protein (eGFP) from *Aequoria victoria*. eGFP is optimized for brighter and higher expression in mammalian cells, could be visualized by cytometry or microscopy (Excitation wavelength maximum=488 nm/ Emission wavelength maximum=507 nm). Positive cells could be sorted by sorter cytometer. Stable mammalian cells could be selected by puromycin resistance.



Unique restriction sites are shown

### Kit Components

Components	ME0004-P
pOnebyOne®-IV-Puro (50 ng/ $\mu$ L) *	20 $\mu$ L
10X Glue Enzyme Buffer	50 $\mu$ L
Glue Enzyme (10 UI/ $\mu$ L)	40 $\mu$ L
Control Insert DNA (30 ng/ $\mu$ L)	10 $\mu$ L
pOnebyOne®-IV-Puro Control **	5 $\mu$ L

\* Linearized vector  
\*\* Circular vector. Empty vector for transfection and expression control.

pOnebyOne® vector family includes **ready to use** vectors for a highly efficient cloning procedure. The vectors are linearized, just for join with your PCR amplified with the recommending primers. Experimental background is less than 2%.

### Features

Elongation factor 1 $\alpha$ promoter	465-1666
Cloning site	1672
2A from equine rhinitis A virus	1675-1737
eGFP	1744-2460
BGH polyadenylation sequence	2497-2722
f1 origin	2776-3195
Puromycin resistance gene (ORF)	3570-4167
pUC origin	4754-5424
Ampicillin resistance gene (ORF) (complementary strand)	310-5572

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Canvax Biotech, S.L. C/Astrónoma Cecilia Payne. Edif. Canvax. 14014 Córdoba, Spain.

☎ : +34 957 348 066

☎ : +34 957 346 217

✉ : [info@canvaxbiotech.com](mailto:info@canvaxbiotech.com)



## Assay procedure

### Cloning

1. Check your PCR has been amplified with the correct primers (*see Manual of pOnebyOne®*).
2. Spin pOnebyOne® vector to collect content at the bottom of the tubes.
3. **On ice**, set up reaction as described below. If you thawed all kits components out of ice, you must pre-chill all them before use during 10 minutes.

Match Reaction	Cloning Reaction	Control Reaction	Background Reaction
pOnebyOne® vector (50 ng/μL)	1 μL	1 μL	1 μL
10x Glue-Enzyme Buffer	1.5 μL	1.5 μL	1.5 μL
PCR Product **	X μL	-	-
Control Insert DNA	-	2 μL	-
Water (Molecular Biology grade)	up 13 μL	up 13 μL	up 13 μL

\*\* Relation vector: insert 1:5 is recommended

4. Mix the reactions by pipetting.
5. Incubate 10 minutes on ice.
6. Add 2 μL Glue-Enzyme (10 U/μL) to each tube, mix gently and incubate 45 minutes **on ice**.

### Transformation

1. Centrifuge the tubes containing the reactions to collect content at the bottom of the tube. Add 15 μL of each reaction to a sterile 1.5 mL microcentrifuge tube on ice. Set up another tube on ice with 50 pg uncut plasmid (*not supplied*) for determination of the transformation efficiency of the competent cells.
2. Remove a tube of frozen Competent Cells (*not supplied*) from storage at -80°C and place in an ice bath until just thawed (about 10 to 15 minutes). Mix the cells by **gently** flicking the tube with your fingertips.
3. **Carefully** transfer 50 μL of cells into each tube prepared in **Step 1**.
4. **Gently** flick the tubes to mix and place them on ice for 30 minutes.
5. Heat-shock the cells for exactly 45 seconds in a water bath at exactly 42°C (**Do not shake nor heat shock more than 45 seconds**).
6. Immediately return the tubes to ice for 2 minutes and plate all transformation mix onto pre-warmed LB ampicillin plates
7. Incubate the plates overnight (12–16 hours) at 37°C.

### PRODUCT USE LIMITATION

This product is developed, designed and sold exclusively for research purposes and in vitro use only. The product was not tested for use in diagnostics or for drug development, nor is it suitable for administration to humans or animals. Please refer to [www.canvaxbiotech.com](http://www.canvaxbiotech.com) for Material Safety Data Sheet of the product.