

## pEF1 $\alpha$ -Myc Vector

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Catalog No.	Amount	Lot Number
631991	10 $\mu$ g	Specified on product label.

### Product Information

pEF1 $\alpha$ -Myc is a mammalian expression vector that constitutively expresses a protein of interest fused to an N-terminal c-Myc tag, even after stable integration of the vector into the host cell genome. Stable, constitutive expression of the tagged protein is driven by the human elongation factor 1 alpha (EF1 $\alpha$ ) promoter, which allows expression of the fusion without the transgene silencing associated with CMV promoters. The myc-tagged protein of interest can be detected by either western analysis or fluorescence microscopy using an anti-myc antibody.

### Package Contents

- 1 tube of pEF1 $\alpha$ -Myc Vector (20  $\mu$ l/tube)

### Storage Conditions

- Store plasmid at  $-20^{\circ}\text{C}$ .
- Spin briefly to recover contents.
- Avoid repeated freeze/thaw cycles.

### Shelf Life

- 1 year from date of receipt under proper storage conditions.

### Storage Buffer

- 10 mM Tris-HCl (pH 8.0), 1 mM EDTA (pH 8.0)

### Concentration

- 500 ng/ $\mu$ l

### Shipping Conditions

- Dry ice ( $-70^{\circ}\text{C}$ )

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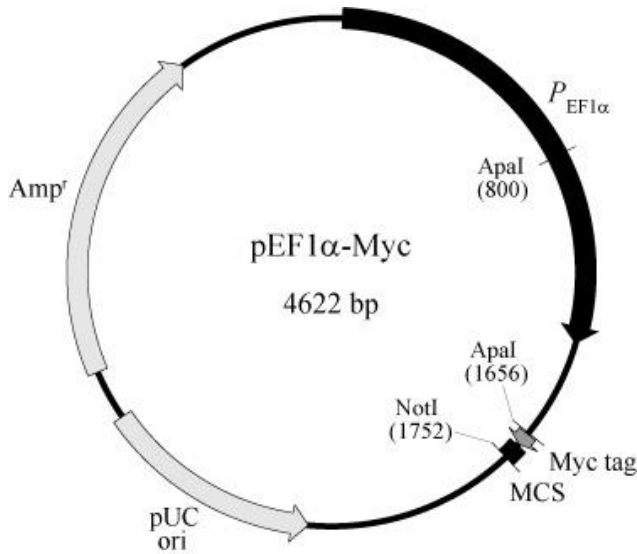


Figure 1. pEF1 $\alpha$ -Myc vector map.

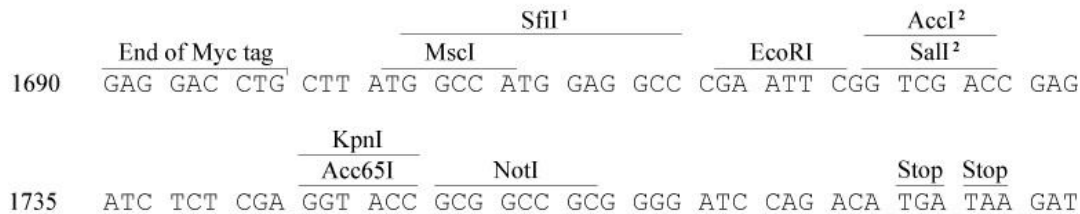


Figure 2. pEF1 $\alpha$ -Myc multiple cloning site (MCS).

<sup>1</sup> This site is compatible with Matchmaker™ System 3 AD and BD Vectors.

<sup>2</sup> These sites are compatible with Matchmaker System 3 BD Vectors.

## Description

pEF1 $\alpha$ -Myc is designed to constitutively express a protein of interest N-terminally fused to a c-Myc epitope tag. The c-Myc epitope tag is well-characterized and highly immunoreactive. In mammalian cells, high-level expression of the tagged protein is driven by the EF1 $\alpha$  promoter ( $P_{EF1\alpha}$ ), which remains constitutively active even after stable integration of the vector into the host cell genome (1). The vector also contains a pUC origin of replication and an ampicillin resistance gene for propagation and selection in *E. coli*.

## Location of Features

- $P_{EF1\alpha}$  (human elongation factor 1 alpha promoter): 26–1360
- Myc epitope tag: 1660–1698
- MCS (multiple cloning site): 1703–1757
- pUC origin of replication: 2376–3019 (complementary)
- Amp<sup>r</sup> (ampicillin resistance gene;  $\beta$ -lactamase): 3167–4163

## Additional Information

To create a Myc-tagged protein, clone the gene of interest into the MCS in-frame with the Myc coding sequence. The resulting fusion can be identified with antibody raised against the Myc tag. The Myc tag is also useful for facilitating purification of the protein, identifying associated proteins, characterizing new proteins by immunoprecipitation, and determining subcellular localization.

pEF1 $\alpha$ -Myc can be used for downstream cloning from Matchmaker Two-Hybrid System Vectors. For complete details, consult the information packet provided for your particular Matchmaker vector. Note: pEF1 $\alpha$ -Myc contains BglII and XhoI sites that are **not** unique; therefore, they should not be used for cloning purposes.

## Propagation in *E. coli*

- Suitable host strains: DH5 $\alpha$ , HB101 and other general purpose strains.
- Selectable marker: plasmid confers resistance to ampicillin (100  $\mu$ g/ml) in *E. coli* hosts.
- *E. coli* replication origin: pUC
- Copy number: high

## References

1. Wang, R. *et al.* (2008) *Stem Cells Dev.* **17**(2):279–289.

## Quality Control Data

### Plasmid Identity & Purity

- Digestion with the indicated restriction enzymes produced fragments of the indicated sizes on a 0.8% agarose/EtBr gel:

Enzyme(s)	Fragment(s)
NotI	4.6 kb
ApaI	0.9 & 3.8 kb

- Vector identity was confirmed by sequencing.
- A<sub>260</sub>/A<sub>280</sub>: 1.8–2.0

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### CATALOG NO.

631991

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