

# pSELECT-zeo-LacZ

A LacZ Reporter Gene System Selectable with Zeocin™

Catalog # psetz-lacz

For research use only

Version # 11C08-MM

## PRODUCT INFORMATION

### Content:

- 20 µg of pSELECT-zeo-LacZ plasmid provided as lyophilized DNA  
- 4 pouches of *E. coli* Fast-Media® Zeo (2 TB and 2 Agar)

### Storage and Stability:

Product is shipped at room temperature. Lyophilized DNA should be resuspended upon receipt and stored at -20°C. Lyophilized DNA is stable 3 months at -20°C. Resuspended DNA is stable more than one year at -20°C. Store *E. coli* Fast-Media® Zeo at room temperature. Fast-Media® pouches are stable 18 months when stored properly. Fast-Media® is a TB (liquid) or LB (solid) based medium that already contains the selective antibiotic.

### Quality control:

Plasmid construct has been confirmed by restriction analysis and sequencing. Plasmid DNA was purified by ion exchange chromatography and lyophilized.

## GENERAL PRODUCT USE

pSELECT plasmids are specifically designed for strong and constitutive expression of a gene of interest in a wide variety of cell lines. They allow the selection of stable transfectants and offer a variety of selectable markers. pSELECT plasmids contain two expression cassettes: the first drives the expression of the gene of interest and the second drives the expression of a large choice of dominant selectable markers for both *E. coli* and mammalian cells. They are both terminating with a strong polyadenylation signal (polyA) that separates the two expression cassettes thus preventing any transcription interference. The late SV40 polyA terminates the transcription of the gene of interest while the human β-globin polyA terminates the transcription of the selectable marker.

pSELECT-LacZ plasmids can be used as control vectors for cloning of an open reading frame, as the LacZ gene is flanked by two unique restriction sites: Nco I at the 5' end that encompasses the Start codon, and Nhe I at the 3' end.

pSELECT-LacZ can serve as a gene reporter system for the study of eukaryotic gene expression and regulation. The *E. coli lacZ* gene encoding β-galactosidase is the classical histochemical reporter gene. β-Galactosidase catalyzes the hydrolysis of X-Gal producing a blue precipitate that can be easily visualized under a microscope. InvivoGen provides two LacZ staining kits for simple and convenient visual detection of LacZ expression within cells or tissues.

- **LacZ Cell Staining Kit** (sold separately, see RELATED PRODUCTS) allows you to determine the percentage of transfected cells expressing the *lacZ* gene. The assay can be completed in 30 minutes, and the blue precipitate can take from 30 minutes to overnight to appear.

- **LacZ Tissue Staining Kit** (sold separately, see RELATED PRODUCTS) allows the detection of transduced cells expressing the *lacZ* gene within fresh or frozen tissues. The staining of the tissues can be observed in 5 to 24 hours.

## PLASMID FEATURES

### First expression cassette

• **hEF1-HTLV prom** is a composite promoter comprising the Elongation Factor-1a (EF-1a) core promoter<sup>1</sup> and the R segment and part of the U5 sequence (R-U5') of the Human T-Cell Leukemia Virus (HTLV) Type 1 Long Terminal Repeat<sup>2</sup>. The EF-1a promoter exhibits a strong activity and yields long lasting expression of a transgene *in vivo*. The R-U5' has been coupled to the EF-1a core promoter to enhance stability of RNA.

• **LacZΔCpG gene:** a humanized and CpG-free allele of the LacZ gene. This CpG-free gene is ten times more active than the wild-type gene in mammalian cells. It can be used for *in vitro* or *in vivo* applications.

• **SV40 pAn:** the Simian Virus 40 late polyadenylation signal enables efficient cleavage and polyadenylation reactions resulting in high levels of steady-state mRNA<sup>3</sup>.

• **ori:** a minimal *E. coli* origin of replication to limit vector size, but with the same activity as the longer Ori.

### Second expression cassette

• **CMV enh/prom:** The human cytomegalovirus immediate-early gene 1 promoter/enhancer was originally isolated from the Towne strain and was found to be stronger than any other viral promoters.

• **EM7** is a bacterial promoter that enables the constitutive expression of the antibiotic resistance gene in *E. coli*.

• **Zeo:** Resistance to Zeocin™ is conferred by the *Sh ble* gene from *Streptoalloteichus hindustanus*. The *Sh ble* gene is driven by the CMV enhancer/promoter in tandem with the bacterial EM7 promoter allowing selection in both mammalian cells and *E. coli*.

• **βGlo pAn:** The human beta-globin 3'UTR and polyadenylation sequence allows efficient arrest of the transgene transcription<sup>4</sup>.

## METHODS

### Plasmid resuspension:

Quickly spin the tube containing the lyophilized plasmid to pellet the DNA. To obtain a plasmid solution at 1 µg/µl, resuspend the DNA in 20 µl of sterile H<sub>2</sub>O. Store resuspended plasmid at -20°C.

### References:

1. Kim, D.W. *et al.* (1990). *Gene* 2: 217-223.
2. Takebe, Y. *et al.* (1988). *Mol. Cell Biol.* 1: 466-472.
3. Carswell, S., and Alwine, J.C. (1989). *Mol. Cell Biol.* 10: 4248-4258.
4. Yu J & Russell JE. (2001). *Mol Cell Biol*, 21(17):5879-88.

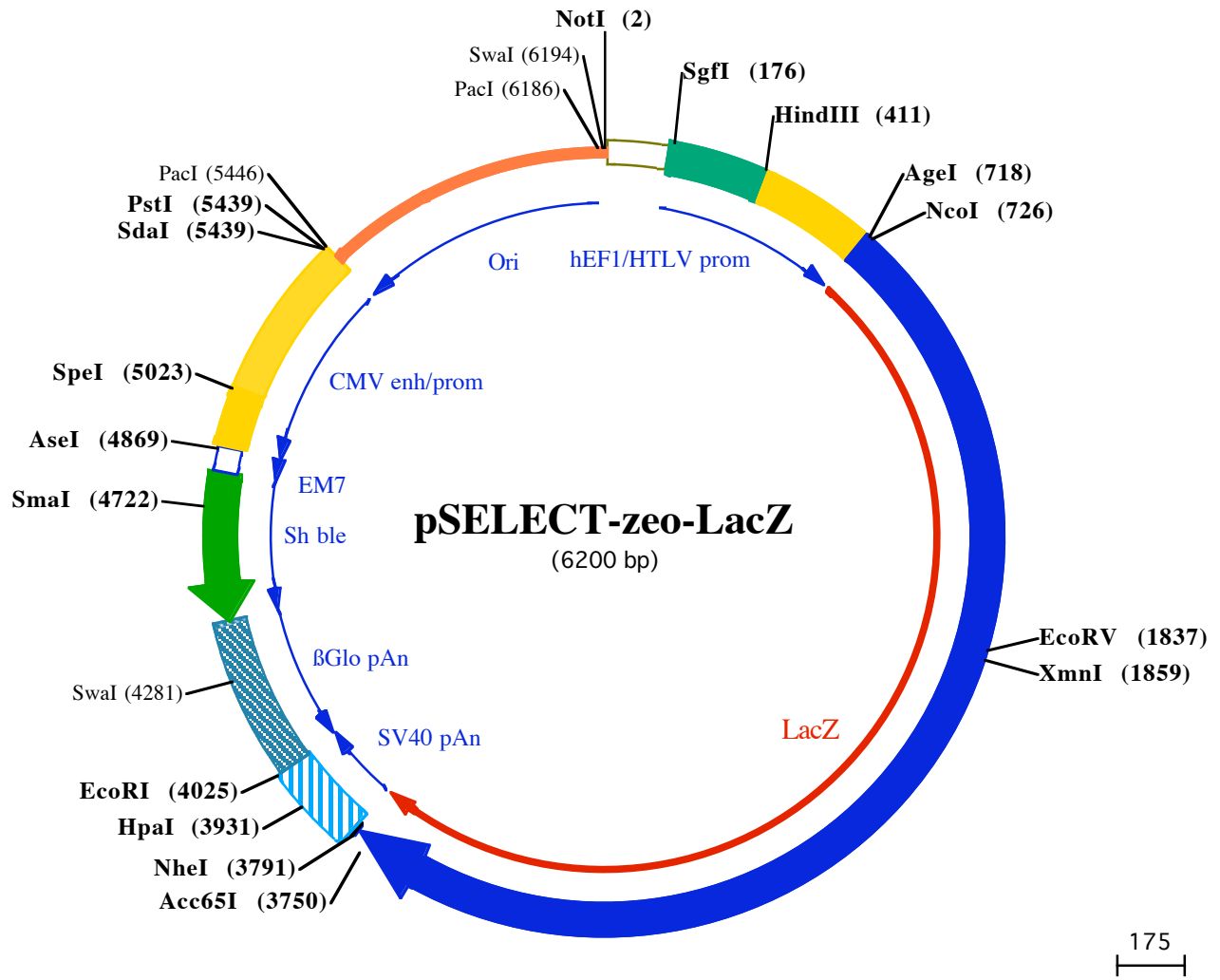
## RELATED PRODUCTS

Product	Catalog Code
Fast-Media® Zeo TB (20 pouches)	fas-zn-l
Fast-Media® Zeo Agar (20 pouches)	fas-zn-s
LacZ Cell Staining Kit (100 reactions)	rep-lz-c
LacZ Tissue Staining Kit (100 ml)	rep-lz-t

## TECHNICAL SUPPORT

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Website: [www.invivogen.com](http://www.invivogen.com)

  
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NotI (2)  
1 GCGGCCGCAATAAAATATCTTTATTTTCATTACATCTGTGTGGTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAACAAAACGAAACA  
SgfI (176)  
101 AAACAACTAGCAAAATAGGCTGTCCCAAGTGAAGTGCAGGTGCCAGAACATTTCTCTATCGAAGGATCTCGCATCGCTCCGGTGCCCGTCAGTGGGCA  
201 GAGCGCATCTGCCACAGTCCCGAGAAGTTGGGGGAGGGTGCGAATTGAACGGGTGCCTAGAGAAGTGGCGGGGTAACATGGAAAGTGATG  
301 TCGTGTACTGGCTCCGCTTTTTCCGAGGGTGGGGAGAACCCTATATAAGTCAGTAGTCGCCGTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAG  
HindIII (411)  
401 AACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTCCACGGCCCGCCCTACCTGAGGCCGCATCCACGCCGGTTGAGTCGCGTTCTGCCGCTT  
501 CCCGCTGTGGTGCTCCTGAACTGCGTCCGCGCTAGGTAAAGTTTAAAGCTCAGTTCGAGACCGGGCCTTTGTCGGCGCTCCCTTGGAGCCTACCTA  
601 GACTCAGCCGGCTCCACGCTTTGCTGACCTGCTTCTCAACTCTACGTTCTTGTCTTCTGTTCTGCGCCGTTACAGATCCAAGCTGTGACC  
NcoI (726)  
AgeI (718)  
701 GCGCCCTACTGAGATCAccggtcacCATGGACCTGTTGTGCTGCAAGGAGAGACTGGGAGAACCCTGGAGTGACCCAGCTCAACAGACTGGCTGCC  
1▶MetAspProVal Val LeuGlnArgArgAspTrpGluAsnProGluVal ThrGlnLeuAsnArgLeuAlaAlaH  
801 ACCCTCCCTTTGCCCTTGGAGAACTCTGAGGAAGCCAGACAGACAGCCAGCAGCTCAGGTCTCTCAATGGAGAGTGGAGTTTGGCTGGTT  
25▶IsProProPheAlaSerTrpArgAsnSerGluGluAlaArgThrAspArgProSerGlnGlnLeuArgSerLeuAsnGluGluTrpArgPheAlaTrpPh  
901 CCCTGCCCTGAAGCTGTGCTGAGTCTTGGCTGGAGTGTACCTCCAGAGGCTGACACTGTTGTGGTCCAGCAACTGGCAGATGCATGGCTATGAT  
58▶eProAlaProGluAlaValProGluSerTrpLeuGluCysAspLeuProGluAlaAspThrValValValProSerAsnTrpGlnMetHisGluGluYrAsp  
1001 GCCCCATCTACCAATGTACCTACCCATCACTGTGAACCCCCCTTTGTGCCACTGAGAACCCACTGGCTGTACAGCCTGACCTTCAATGTTG  
92▶AlaProIleThrThrAsnValThrTyrProIleThrValAsnProPheValProThrGluAsnProThrGluCysTyrSerLeuThrPheAsnValAla  
1101 ATGAGACTGGCTGCAAGAAGCCAGCAGCATCTTTGATGGAGTCACTTCCTCCACCTCTGGTGAATGGCAGGTTGGCTATGGCCAA  
125▶spGluSerTrpLeuGlnGluGluGlnThrArgIleIlePheAspGluValAsnSerAlaPheHisLeuTrpCysAsnGluYArgTrpValGluYrGluGlu  
1201 AGACAGCAGCTGCCCTCTGAGTTGACCTCTCTGCTTCTCAGAGCTGGAGAGAAGCAGGCTGGCTGTGATGGTCTCAGTGGTCTGATGGCAGCTAC  
158▶nAspSerArgLeuProSerGluPheAspLeuSerAlaPheLeuArgAlaGluGluAsnArgLeuAlaValMetValLeuArgTrpSerAspGluYrSerTrp  
1301 CTGGAAGCAAGACATGTGGAGGATGTCTGGCATCTTCAGGATGTGAGCTGCTGCACAAGCCACCACCCAGATTTCTGACTTCCATGTTGCCACCA  
192▶LeuGluAspGluAspMetTrpArgMetSerGluIlePheArgAspValSerLeuLeuHisLysProThrThrGlnIleSerAspPheHisValAlaThrAla  
1401 GGTCAATGATGACTTCAGCAGAGCTGTGCTGGAGGCTGAGTGCAGATGTGTGGAGAAGTGCAGACTACCTGAGAGTGCAGAGTGGCCTGGCAAGG  
225▶rPheAsnAspAspPheSerArgAlaValLeuGluAlaGluValGlnMetCysGluYLeuArgAspTyrLeuArgValThrValSerLeuTrpGlnGlu  
1501 TGAGACCAGGTGGCCTCTGGCAGACCCCTTTGGAGGAGAGATCATTGATGAGAGAGGAGGCTATGCTGACAGAGTACCCTGAGGCTCAATGGAG  
258▶yGluThrGlnValAlaProGluYrAlaProPheGluYrGluGluIleIleAspGluArgGluYrGluYrAlaAspArgAlaThrLeuArgLeuAsnValGlu  
1601 AACCCCAAGCTGTGCTGCTGAGTCCCAACCTCTACAGGCTGTGTGGAGCTGCACACTGCTGATGGCACCCTGATTTGAAGCTGAAGCTGTGATG  
292▶AsnProLysLeuTrpSerAlaGluIleProAsnLeuTyrArgAlaValValGluLeuHisThrAlaAspGluYrLeuIleGluAlaGluAlaCysAspV  
1701 TTGATTACAGAAAGTACAGGATGAGAATGGCTGCTGCTCAATGGCAAGCCTGCTCATCAGGGAGTCAACAGGATGAGCACCACCTCTGCA  
325▶AlGluPheArgGluValArgIleGluAsnGluYLeuLeuLeuAsnGluYLysProLeuLeuIleArgGluYValAsnArgHisGluHisProLeuHis  
EcoRV (1837) XmnI (1859)  
1801 TGGACAAGTGTGATGAACAGACAATGGTGCAGATATCTGTCTAATGAAGCAGAACAACTTCAATGTCTCAGTGTCTCACTACCCCAACCACCT  
358▶sGluYrGlnValMetAspGluGlnThrMetValGlnAspIleLeuLeuMetLysGlnAsnAsnPheAsnAlaValArgCysSerHisTyrProAsnHisPro  
1901 CTCTGGTACACCCCTGTGTGACAGGTATGGCCTGTATGTTGTTGATGAAGCCAACTTGGAGACATGGCATGGTCCCATGAACAGGCTCACAGATGACC  
392▶LeuTrpTyrThrLeuCysAspArgTyrGluYLeuTyrValValAspGluAlaAsnIleGluThrHisGluMetValProMetAsnArgLeuThrAspAsp  
2001 CCAGTGGCTGTGCTGCCATGTCTGAGAGAGTGCACAGGATGCTGGAGGCTGCAGAGACAGGAACCCCTCTGTGATCATCTGGGCAATGAGTGTGG  
425▶roArgTrpLeuProAlaMetSerGluArgValThrArgMetValGlnArgAspArgAsnHisProSerValIleIleTrpSerLeuGluYAsnGluSerGlu  
2101 ACATGGAGCAACCATGATGCTCTACAGGTGGATCAAGTCTGTGACCCCAAGCAGACCTGTGCGATGAAGGAGGTGGAGCAGACACACAGCCACA  
458▶yHisGluYrAlaAsnHisAspAlaLeuTyrArgTrpIleLysSerValAspProSerArgProValGlnTyrGluGluYrGluYrAlaThrAlaThr  
2201 GACATCATCTGCCCATGTATGCCAGGTTGATGAGGACAGCCCTTCCCTGCTGTGCCAAGTGGAGCATCAAGAAGTGGCTCTCTCTGCTGGAGAGA  
492▶AspIleIleCysProMetTyrAlaArgValAspGluAspGlnProPheProAlaValProLysTrpSerIleLysLysTrpLeuSerLeuProGluYrGlu  
2301 CCAGACTGTGATCCTGTGAATATGCACATGCAATGGGCAACTCTGGGAGGCTTTCGCAAGTACTGGCAAGCCTTCAGACAGTCCAGCCAGCTCA  
525▶hrArgProLeuIleLeuCysGluYrAlaHisAlaMetGluYAsnSerLeuGluYrPheAlaLysTyrTrpGlnAlaPheArgGlnTyrProArgLeuGlu  
2401 AGGAGGATTTGTGGGACTGGGTGGACCAATCTCTCAAGTATGATGAGAATGGCAACCCCTGGTCTGCCTATGGAGGAGACTTTGGTGCACACCCC  
558▶nGluYrPheValTrpAspTrpValAspGlnSerLeuIleLysTyrAspGluAsnGluYAsnProTrpSerAlaTyrGluYrGluYrAspPheGluYrSerPro  
2501 AATGACAGGCGATTCTGCATGAATGGCCTGGTCTTTCAGACAGGACCCCTCACCTGCCCTCACAGAGGCCAAGCACCAGCAACAGTCTTCCAGTTCA  
592▶AsnAspArgGlnPheCysMetAsnGluYLeuValPheAlaAspArgThrProHisProAlaLeuThrGluAlaLysHisGluGlnGlnPhePheAlaPheA  
2601 GGCTGTGGACAGCAATGAGTGCATCTGAGTACCTTTCAGCAGCTTGCACATGAGCTCCTGACTGGATGGCCCTGGATGGCAAGCTCTCTGTGACCC  
625▶rGLeuSerGluYrGlnThrIleGluValThrSerGluYrLeuPheArgHisSerAspAsnGluLeuLeuHisTyrMetValAlaLeuAspGluYrLysProLe  
2701 GGCTTCTGGTGGTGGCTCTGGATGTGGCCCTCAAGGAAAGCAGCTGATTGAACTGCCTGAGCTGCCTCAGCCAGAGTCTGCTGGACAACCTGTGGCTA  
658▶uAlaSerGluYrGluValProLeuAspValAlaProGlnGluYrLysGlnLeuIleGluLeuProGluLeuProGluSerAlaGluYrGlnTrpLeu  
2801 ACAGTGAGGGTGGTTTCAGCCCAATGCAACAGCTTGGCTGTGGCAGCCACATCTCTGCATGGCAGCAGTGGAGGCTGGCTGAGAACCTCTCTGTGACCC  
692▶ThrValArgValValGlnProAsnAlaThrAlaTrpSerGluAlaGluYrHisIleSerAlaTrpGlnGlnTrpArgLeuAlaGluAsnLeuSerValThrL  
2901 TGCCTGCTGCTCATGCCATCCCTCACCTGACAACATCTGAAATGGACTTCTGCATTGAGCTGGCAACAAGAGATGGCAGTTCAACAGGCAGTCTGG  
725▶euProAlaAlaSerHisAlaIleProHisLeuThrThrSerGluMetAspPheCysIleGluLeuGluYAsnLysArgTrpGlnPheAsnArgGlnSerGlu  
3001 CTTCTGTCTCAGATGTGGATTGGAGACAAGAAGCAGCTCCTCACCCCTCTCAGGGCAATTCACAGGGCTCCTCTGGACAATGACATGGAGTGTCT  
758▶yPheLeuSerGlnMetTrpIleGluYAspLysLysGlnLeuLeuThrProLeuArgAspGlnPheThrArgAlaProLeuAsnAspIleGluYrAlaSer  
3101 GAGGCCACAGGATTTGACCCAAATGCTTGGGTGGAGAGGTTGGAAGGCTGTGGACTACCAAGCTGAGGCTGGCTGGCTGCAAGCAGCAGCACCC  
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3201 TGGCTGATGCTTCTGATCACCACAGCCATGCTTGGCAGCACCAGGCAAGCAGCCCTGTTTCATCAGCAGAAAGCCTACAGGATGATGGCTCTGGACA  
825▶uAlaAspAlaValLeuIleThrThrAlaHisAlaTrpGlnHisGluGlnYrLysThrLeuPheIleSerArgLysThrTyrArgIleAspGluYrGluYrGlu  
3301 GATGGCAATCAGTGGATGGAGGTTGCCCTGACACACCTCACCTGCAAGGATTGGCCTGAAGTCACTGGCAGAGTGGCTGAGAGGTTGAAAC  
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3401 TGGCTGGCTTAGGCCCTCAGGAGAATCCTGACAGGCTGACAGCTGCCTTGGCAGGTGGGACCTGCCTGTCTGCATGACATGACCCCTATG  
892▶TrpLeuGluYrGluYrProGlnGluAsnTyrProAspArgLeuThrAlaAlaCysPheAspArgTrpAspLeuProLeuSerAspMetTyrThrProTyrV  
3501 TGTTCCTCTGAGAATGGCTGAGTGTGGCACCAGGAGCTGAACTATGGTCTCACCAGTGGAGGGGAGACTTCCAGTTCAACATCTCCAGGTACTC  
925▶aPheProSerGluAsnGluYLeuArgCysGluYrThrArgGluLeuAsnTyrGluProHisGlnTrpArgGluYrAspPheGlnIleSerArgTyrSe  
3601 TCAGCAACAGCTCATGAAACCTCTCACAGCACCTGCTCCATGCAAGGAGGAACTGGCTGAACATTGATGGCTTCCACATGGCATTGGAGGAGAT  
958▶rGlnGlnGlnLeuMetGluThrSerHisArgHisLeuLeuHisAlaGluGluYrTrpLeuAsnIleAspGluYrPheHisMetGluYrIleGluYrYAsp  
Acc65I (3750) NheI (3791)  
3701 GACTCTTGGTCTCTCTGTGTCTGCTGAGTTCAGTTATCTGCTGGCAGGTACCCTATCAGTGGTGGTGGCCAGAAGTAAACCTGAGCTAGCTGGC  
992▶AspSerTrpSerProSerValSerAlaGluPheGlnLeuSerAlaGluYrArgTyrHisTyrGluLeuValTrpCysGlnLys•••  
3801 CAGACATGATAAGATACATTGATGAGTTGGACAAACCAACTAGAATGCAGTGAATAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATT

3901 **HpaI (3931)**  
TGTAACCATTATAAGCTGCAATAAACAGTTAAACAACAACATTGCATTCTATTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTAAAGCAAG

4001 **EcoRI (4025)**  
TAAAACTCTACAAATGTGGTATGGAAATTCTAAAAATACAGCATAGCAAACTTTAACCTCAAATCAAGCCTCTACTTGAATCCTTTTCTGAGGGATGAA

4101 TAAGGCATAGGCATCAGGGGCTGTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTTCTTTCATGGAGTTAAGATATAGTGATTTTCCCAAGGTTT

4201 **SmaI (4281)**  
GAAGTAGCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTATGTAATAATTCAGAAATAATTTAAATACATCATTGCAATGA

4301 AAATAAATGTTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCAGTTTAGTAGTTGGACTTAGGGAACAAAGGAACCTTTAATA

4401 GAAATTGGACAGCAAGAAAGCGAGCTTCTAGCTTATCCTCAGTCTGCTCTGCTGCCACAAAGTGCACGAGTTGCCGGCCGGTCCGCGAGGGCAACT

4501 CCCGCCCCACGGTGTCTGCCGATCTCGGTATGGCCGGCCGGAGGCGTCCCGAAGTTCGTGGACACGACCTCCGACCTCGGCGTACAGCTCGTC  
127 rLeuGlyTrpProGlnGluValPheHisValCysAsnGlyAlaProAspArgLeuAlaPheGly  
104 uArgGlyTrpProGlnGluValPheHisValCysAsnGlyAlaProAspArgLeuAlaPheGly  
4601 CAGGCCGCGCACCCACCCAGGCCAGGGTGTGTCCGGCACCACTGCTCTGGACCGCGCTGATGAACAGGGTCACTGCTCCCGACCCACCCGGCG  
71 LeuGlyArgValTrpValTrpAlaLeuThrAsnAspProValGlnAspGlnValAlaSerIlePheLeuThrValAspAspArgValValGlyAlaP

4701 **SmaI (4722)**  
AAGTCGCTCCACGAAGTCCCGGAGAACCCGAGCCGGTCCAGAACCTCGACCCTCCGGCGACGTCGCGCGGTTGAGCACCCGGAACGGCACTGG  
37 heAspAspGluValPheAspArgSerPheGlyLeuArgAspThrTrpPheGluValAlaGlyAlaValAspArgAlaThrLeuValProValAlaSerTh

4801 **AseI (4869)**  
TCAACTGGCCATGATGCCCTCCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCC  
4 rLeuLysAlaMet

4901 AGCTTATCTGACGGTTCACATAACGAGCTCTGCTTATATAGACCTCCACCCTACACGCCCTACCGCCATTTGCGTCAATGGGGGGAGTGTGTACGACA

5001 **SpeI (5023)**  
TTTTGAAAGTCCCGTTGATTTACTAGTCAAACAACACTCCCATGACGTCAATGGGGTGGAGACTTGAAATCCCGTGAGTCAAACCGCTATCCACGC

5101 CCATTGATGTACTGCCAAAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTACTGGG

5201 CATAATGCCAGCGGGCCATTTACCGTCATTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGATGTACTGCCAAGTGGGCGAGTTTACCGTAA

5301 ATACTCCACCATTGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGCGGGGGTCTGTGGCGGTCAG

5401 **PstI (5439)**  
**SdaI (5439)**  
CCAGCGCGGCCATTACCCTGAAGTTATGTAACGCCCTGCAGGTTAATTAAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGGCCGC

5501 GTTGCTGGCGTTTTCCATAGGCTCCGCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATAC

5601 CAGGCGTTTCCCTGGAAGTCCCTCGTGGCTCTCTGTCCGACCTGCCGCTTACCGGATACCTGTCCGCTTCTCCCTCGGGAAGCGTGGCGC

5701 TTTCTCATAGCTACGCTGTAGTATCTCAGTTCGGTGTAGTCTGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTCAGCCGACCGCTGCGC

5801 CTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTA

5901 GCGGTGTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGTAAGCCAGTTACCTTCGGAA

6001 AAAGATTGGTAGCTTTGATCCGGCAAACAACCCGCTGGTAGCGGTGTTTTTTTGTGTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCA

6101 **PacI (6186) SmaI (6194)**  
AGAAGATCCTTTGATCTTTTCTACGGGTCTGACGCTCAGTGAACGAAACTCACGTTAAGGGATTTTGGTCTAGGCTAGTTAATTAACATTTAAATCA

# Fast-Media®

Microwaveable media for selection and propagation of *E. coli* transformants

Catalog # fas-xx-l, fas-xx-s, fas-xx-xgal

For research use only

Version # 10G07-MM

## PRODUCT INFORMATION

### Contents:

*E. coli* **Fast-Media**® are prepared as individual sealed pouches containing the necessary amount of powder for preparation of 200 ml of selective liquid or agar medium.

30 pouches are supplied for each order of TB or Agar and 20 pouches are supplied for each order of XGal Agar.

### Storage and stability:

**Fast-Media**® are shipped at room temperature, and must be stored in a dry and cool place. They are stable for 2 years at room temperature.

When properly prepared, **Fast-Media**® plates or broths are stable for 4 weeks at 4°C, and remain sterile and selective.

### Quality control:

The high quality and performance of each formulation has been tested with some widely used and proprietary *E. coli* K12 derived strains\*. These include DH5α, Top10, MC1061, XL1 blue, JM 109, TB1, GT100, GT110, GT115, GT116.

The adequate plasmids carrying the appropriate *E. coli* resistance genes are used as positive control.

\**E. coli* recipient strains carrying the Tn5 transposon are resistant to Kanamycin and Zeocin™.

## GENERAL PRODUCT USE

*E. coli* **Fast-Media**® are microwaveable ready-to-use solid or liquid media, supplied with a selective antibiotic, and chromogenic substrates (for five references), therefore designed for the growth or selection of *E. coli* transformant colonies, as well as detection of blue/white colonies.

- **Fast-Media**® Agar formulation is LB based agar medium supplemented with selective antibiotic, it is used for selection of resistant *E. coli* colonies after transformation by vectors carrying a selection resistance gene.

- **Fast-Media**® X-Gal formulation is a LB based agar medium supplemented with selective antibiotic, X-Gal and IPTG. It is used for detection of blue/white resistant colonies after transformation by a vector carrying *LacZ* gene.

- **Fast-Media**® TB formulation is a Terrific Broth based liquid medium supplemented with selective antibiotic. It's used for high cell density culture of transformed bacteria, and extraction of high quantity and quality of required plasmid.

## FAST-MEDIA® FEATURES

*E. coli* **Fast-Media**® offer researchers a quick and convenient way to prepare 200 ml of liquid culture medium, or 8-10 agar plates in about five minutes USING A MICROWAVE INSTEAD OF AN AUTOCLAVE.

*E. coli* **Fast-Media**® are available with a large variety of prokaryotic selective agents including Ampicillin, Blastidicin S, Hygromycin B, Kanamycin, Puromycin and Zeocin™ (see table below). **Fast-Media**® is also available with no selective agent (Base) that can be prepared with or without antibiotics.

	Agar	X-Gal	TB
Base	√		√
Ampicillin	√	√	√
Blasticidin	√	√	√
Hygromycin	√	√	√
Kanamycin	√	√	√
Puromycin	√		√
Zeocin™	√	√	√

## SPECIAL HANDLING

Caution should be exercised during handling of **Fast-Media**® due to potential allergenic properties of antibiotics. Wear protective gloves, do not breath the dust.

## METHOD

For customer convenience, procedure is directly printed on each pouch.

- 1- Pour the pouch contents into a clean borosilicate glass bottle or flask.
- 2- Add 200 ml of distilled or deionized water.
- 3- Mix thoroughly by swirling the glass bottle or flask.
- 4- Heat in a microwave oven on MEDIUM power setting (about 450W) until bubbles start to appear (about 3 minutes).

### Do not heat in a closed container.

5- Swirl gently to mix the preparation and re-heat for 30 seconds. Swirl gently again.

6- Repeat step 4 if necessary until the medium is completely dissolved. Do not overboil.

7- Allow the medium to cool to 50-55 °C, use directly for liquid medium, or pour plates for solid medium.

**Caution:** Any solution heated in a microwave oven may become superheated and suddenly boil when moved or touched. Handle with extreme care. Wear heat-proof gloves.

**Note:** Do not repeat this above procedure once the medium is prepared because the antibiotic will be adversely affected.

## For preparation of supplemented **Fast-Media**® Base.

- Follow the instructions above and when media has cooled to 50-55 °C add the antibiotic at the appropriate concentration for selection of *E. coli*.

## TECHNICAL SUPPORT

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