Product Insert

dam-/dcm- Chemically Competent Cells Bacteriophage T1-Resistant

Catalogue Numbers:
BIO-85044 ≥10^7 cfu/µg of pUC19

Features

- Lacks *dam* and *dcm* methylases
- Bacteriophage T1-Resistant
- ≥10^7 transformation efficiency
- Convenient 100µl aliquots

Applications

- Generate plasmid DNA devoid of *dam* and *dcm* methylation
- Enable restriction digestion of plasmid DNA by methylation-sensitive endonucleases

Description
dam-/dcm- Chemically Competent Cells are an ideal host to generate plasmid DNA lacking in *dam* and *dcm* methylation. The absence of *dam* and *dcm* methylases in this strain prevents methylation at GATC and CC(A/T)GG sites respectively. Plasmid DNA propagated and purified from this host can be digested by the many restriction enzymes otherwise inhibited by *dam* or *dcm* methylation. pUC19 DNA is also provided as a positive control. The transformation efficiency of the dam-/dcm- Chemically Competent Cells is 10^7 cfu/µg of pUC19.

Product Specifications:

Efficiency	Pack Size	Control DNA
≥10^7 cfu/µg of pUC19	1ml (10 x 100µl)	pUC19 (10pg/µl)

Genotype:
F⁻ *dam*-13::*Tn*9(Cam^R) *dcm*-6 *ara*-14 *hisG*4 *leuB*6 *thi*-1 *lac*Y1 *gal*K2 *gal*T22 *gln*V44 *hsd*R2 *xyl*A5 *mtl*-1 *rps*L 136(Str^R) *rtb*D1 *ton*A31 *tsx*78 *mcr*A *mcr*B1

Storage Conditions:
dam-/dcm- Chemically Competent Cells can be stored for 6 months at -80°C.

Shipping Conditions:
On Dry Ice

Associated Products:

Product Name	Pack Size	Cat No
SureClean	1 x 5ml	BIO-37042
Quick-Stick Ligase	50 Reactions	BIO-27027
IPTG	5g	BIO-37036
X-GAL	1g	BIO-37035

Notes
1. This product insert is a declaration of analysis at the time of manufacture.
2. Research Use Only.

Suggested Transformation Procedure for Optimal Results:

1) Remove cells from -80°C and let thaw on wet ice.
2) Gently mix cells by lightly flicking tube. Aliquot ~50-100µl of cells into chilled, 17 x 100mm polypropylene tube(s), e.g. Falcon 2059. Unused cells may be refrozen, but a small drop in efficiency may result. For optimal recovery, refreeze cells in a dry ice/ ethanol bath prior to storage at -80°C.
3) Add DNA solution (≤ 5µl per 50µl cells) to cell suspension and gently swirl tube(s) for a few seconds to mix. If a control is desired, repeat this step with 2µl of the provided pUC19 in a separate tube.
4) Incubate on ice for 30 minutes.
5) Place tube(s) in 42°C water bath for ~45 seconds without shaking.
6) Replace tube(s) on ice for ~2 minutes.
7) Dilute transformation reaction(s) to 1ml by addition of 900-950µl SOC (see associated products). SOC Medium: 2% Tryptone, 0.5% Yeast Extract, 0.4% glucose, 10mM NaCl, 2.5mM KCl, 10mM $MgCl_2$ & 10mM $MgSO_4$.
8) Shake tube(s) ~200 rpm for 60 minutes at 37°C.
9) Plate by spreading 5-200µl of cell transformation mixture on LB agar plates containing appropriate antibiotic and incubate overnight at 37°C.

- When performing the pUC19 control transformation, plate 5µl of the transformation mixture on a LB agar plate containing 100µg/ml ampicillin. To facilitate cell spreading, place a pool of SOC (100µl) onto surface of plate prior to addition of transformation mixture.

Transformation Efficiency Calculation for Control DNA

$$\text{Transformation Efficiency (cfu/µg pUC19 DNA)} = \frac{\text{\# colonies (colony forming units)}}{\text{pg pUC19 transformed}} \times \frac{10^6 \text{ pg}}{\text{µg}} \times \frac{\text{Final volume (µl) of transformation mix}}{\text{Volume plated (µl)}}$$

For example:
If 40 colonies were obtained after transforming 20pg of pUC19 and plating 5µl of the final 1ml transformation mixture, the calculated transformation efficiency would be:

$$\frac{40\text{cfu}}{20\text{pg pUC19}} \times \frac{10^6 \text{ pg}}{\text{µg}} \times \frac{1000\text{µl}}{5\text{µl}} = 4 \times 10^8 \text{ cfu/µg pUC19}$$

UK
Bioline
16 The Edge Business Centre
Humber Road
London, NW2 6EW
U.K

Tel: +44 (0)20 8830 5300
Fax: +44 (0)20 8452 2822

USA
Bioline USA Inc.
305 Constitution Dr.
Taunton
MA 02780
USA

Toll Free: 888 257 5155
Tel: 508 880 8990
Fax: 508 880 8993

Germany
Bioline GmbH
Im Biotechnologiepark TGZ 2
D-14943 Luckenwalde
Germany

Tel: +49 (0)33 7168 1229
Fax: +49 (0)33 7168 1244

Australia
Bioline (Aust) Pty Ltd
PO Box 122
Alexandria NSW 1435
Australia

Tel: +61 (0)2 9209 4180
Fax: +61 (0)2 9209 4763

email: info@bioline.com
website: www.bioline.com