Saint Louis, Missouri 63103 USA
Telephone (800) 325-5832 (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

ProductInformation

COMPETENT CELLS, LOW EFFICIENCY JM109

Product No. **C 2582**
Store at –70 °C

Product Description
JM109 cells are made competent for transformation by a modification of the method of Hanahan.
Provides >10^7 colony forming units per µg of control DNA (pGEM-3Z diluted to 0.1 ng/µl in TE buffer).

Storage
Always avoid multiple freeze-thaw cycles or exposure to frequent temperature changes. These fluctuations can greatly alter product stability. Do not re-freeze unused thawed aliquot.

Genotype
*end*A1, *rec*A1, *gyr*A96, *thi*, *hsd*R17 (r_K^-, m_K^+), *rel*A1, *sup*E44, Δ(*lac-pro*AB), [F=, *tra*D36, *pro*AB, *lac*I^qZΔM15].

Storage Buffer
100	mM KCl
45	mM $MnCl_2$
10	mM $CaCl_2$
3	mM $HACoCl_3$
10	mM KOAc
10	% glycerol (w/v)
5	% sucrose (w/v)

pH is adjusted to 6.4 using dilute HCl

Transformation Protocol
1. Remove a tube of frozen cells from -70 °C and thaw on ice.
2. To a chilled 17 x 100 mm polypropylene tube, add 50 µl of competent cells. Note: Use of standard microcentrifuge tubes will reduce the transformation efficiency by 2-fold.
3. Add 1-50 ng of plasmid DNA ligation mixture (in a volume that should not exceed 10 µl) per 100 µl of competent cells. Mix by gently tapping the tube.
4. Immediately place the tube on ice for 10 minutes.
5. Heat shock the cells for 45-50 seconds in a 42°C water bath (critical step). **DO NOT SHAKE**.
6. Immediately place the tubes on ice for 2 minutes.
7. Add 900 µl of SOC medium (Product No. S1797, available as part of #COMP-T, competent cell preparation kit) and incubate for 60 minutes at 37°C with shaking (approximately 225 rpm).
8. Dilute the experimental reaction as necessary and spread 100-200 µl on plates containing the appropriate antibiotic.

Reference
Hanahan, D., J. Mol. Biol. **166,** 557 (1983)

1/99