

Perform Super Fast Transformations

TurboCells® Chemically Competent *E. coli*

It's the end of a long day in the lab. Your colleagues are leaving, but you still need to transform your competent cells. That means at least another hour before you can head out. But what if you could complete the transformation and go home in 5 minutes? That is what you would do if you were using TurboCells Chemically Competent *E. coli* from Genlantis.

Turbo Speed Transformations

TurboCells Chemically Competent *E. coli* offer the efficiency you need for routine cloning together with the speed you want to get it done faster than ever before - only 5 minutes from freezer to finish. Specially optimized to achieve excellent transformation efficiency using a novel 5-minute protocol (Figure 1), TurboCells eliminate the need for an hour-long recovery step and an inconvenient 42°C water bath. Compared to other competent *E. coli*, TurboCells can save you at least an hour per transformation.

Great Results

With TurboCells, you do not have to sacrifice performance for speed. Using the 5-minute protocol with supercoiled DNA, you can achieve transformation efficiencies of 5×10^7 - 1×10^8 cfu/ μ g, which is more than sufficient for most cloning experiments (Figure 2). Additionally, efficiencies of $>1 \times 10^9$ cfu/ μ g can be achieved using the optional 1.5 - 2 hour transformation protocol (included).

Figure 1. Comparison of Transformation Protocols

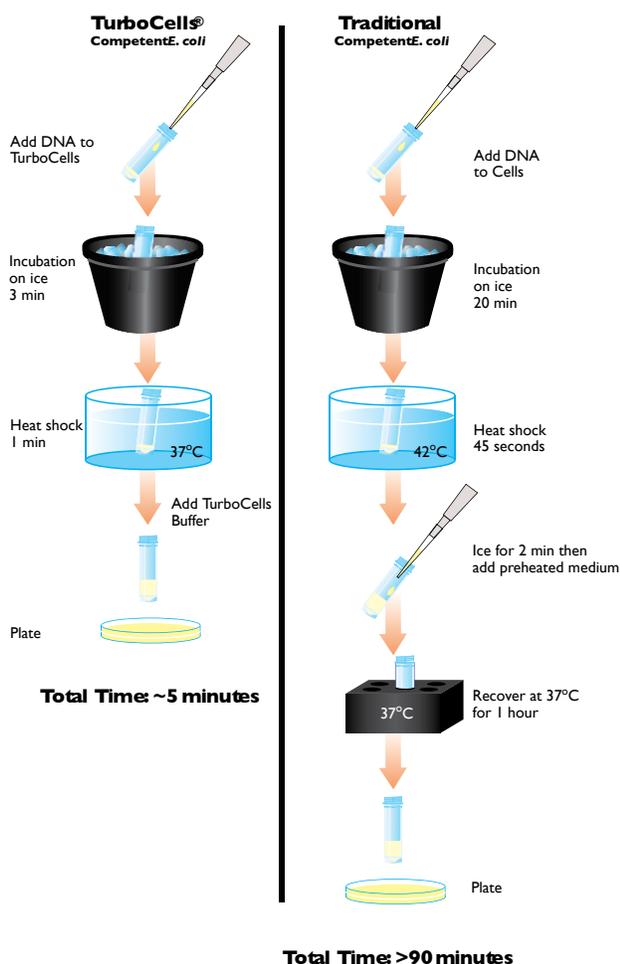
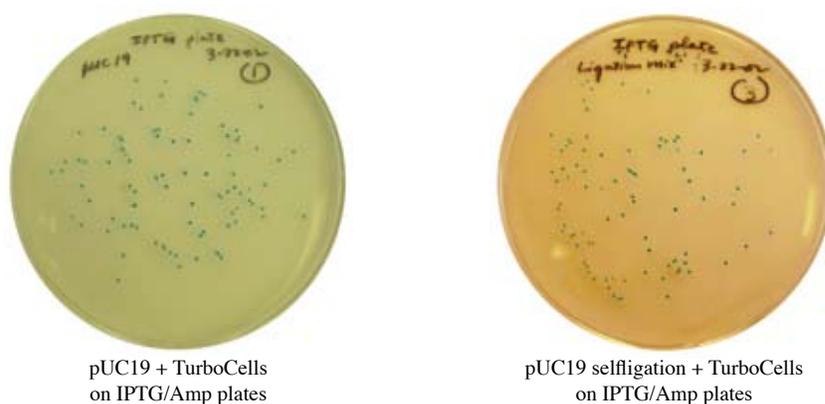


Figure 2. Transformation Results with TurboCells



TurboCells were transformed with 50 μ g of pUC19 plasmid DNA, incubated at 37°C overnight, and then colonies were counted.

Table 1. Genotype of TurboCells™ Chemically Competent *E coli*

TurboCells™ : <i>recA1 endA1 hsdR17 supE44 thi-1 gyrA96 relA1 φ80lacZΔM15 Δ(lacZYA-argF)U169</i>	
TurboCells™ F' : <i>F recA1 endA1 hsdR17 supE44 thi-1 gyrA96 relA1 φ80lacZΔM15 Δ(lacZYA-argF)U169</i>	
TurboCells™ BL21(DE3) : <i>recA1 endA1 hsdR17 supE44 thi-1 gyrA96 relA1 φ80lacZΔM15 Δ(lacZYA-argF)U169 (DE3)</i>	
TurboCells™ BL21(DE3)pLysS : <i>recA1 endA1 hsdR17 supE44 thi-1 gyrA96 relA1 φ80lacZΔM15 Δ(lacZYA-argF)U169 (DE3)pLysS(Cam^R)</i>	
Genotype	Advantage
<i>recA1</i>	Mutation in gene(s) responsible for recombination of DNA. This genotype is particularly desirable when cloning genes with direct repeats.
<i>endA</i>	Mutation in the nonspecific endonuclease Endonuclease I. Eliminates non-specific endonuclease activity resulting in improved plasmid preps.
<i>hsd</i>	Mutations in the system of methylation and restriction which allows <i>E. coli</i> to recognize DNA as foreign. The <i>hsd</i> genotype allows efficient transformation of DNA generated from PCR reactions.
<i>lacZΔM15</i>	Element required for β-galactosidase complementation when plated on X-Gal. Used in blue/white screening of recombinants. Usually carried on the lambdoid prophage 80 or F'.
<i>DE3</i>	Lysogen that encodes T7 RNA polymerase. Used to induce expression in T7-driven expression systems.
<i>pLysS</i>	Plasmid that encodes T7 lysozyme. Used to reduce basal expression in T7-driven expression systems by inhibiting basal levels of T7 RNA polymerase.

Powerful Strains

TurboCells Competent *E. coli* are prepared using a unique procedure to allow consistent performance under diverse conditions. For example, 10 µl of undiluted ligation mix can be added directly to 50 µl of competent cells without significantly compromising transformation results. The fast and easy protocol, useful genotype (Table 1), and consistent performance make TurboCells Competent *E. coli* a great choice for both routine cloning

experiments and demanding high-throughput applications. Additionally, TurboCells versions of the BL21(DE3) and BL21(DE3) pLysS *E. coli* strains - ideal for protein expression - are also available.

Convenient, Easy-to-Use, and Customizable

For optimal transformation results and added convenience, TurboCells are supplied in single-use 50 µl aliquots. This packaging avoids efficiency-robbing freeze-thaw cycles and

wasted cells. Moreover, Genlantis can prepare TurboCells in any format your research requires: whether it's multi-well plates, different volumes per tube, or different numbers of tubes. Genlantis will customize the TurboCells format to fit your needs in a cost-effective and timely manner.

Turbo charge your next cloning experiment with TurboCells Competent *E. coli* and get fast and efficient transformation results. Call Genlantis to order TurboCells today.

TurboCells™ Chemically Competent <i>E coli</i>		
TurboCells™ Chemically Competent <i>E coli</i>	20 x 50 µl	C300020
TurboCells™ F' Chemically Competent <i>E coli</i>	20 x 50 µl	C301020
TurboCells™ BL21 (D3E) Chemically Competent <i>E coli</i>	20 x 50 µl	C302020
TurboCells™ BL21 (D3E) pLysS Chemically Competent <i>E coli</i>	20 x 50 µl	C303020