

Video Article

# Transformation of Plasmid DNA into *E. coli* Using the Heat Shock Method

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## Abstract

Transformation of plasmid DNA into *E. coli* using the heat shock method is a basic technique of molecular biology. It consists of inserting a foreign plasmid or ligation product into bacteria. This video protocol describes the traditional method of transformation using commercially available chemically competent bacteria from Genlantis. After a short incubation in ice, a mixture of chemically competent bacteria and DNA is placed at 42°C for 45 seconds (heat shock) and then placed back in ice. SOC media is added and the transformed cells are incubated at 37°C for 30 min with agitation. To be assured of isolating colonies irrespective of transformation efficiency, two quantities of transformed bacteria are plated. This traditional protocol can be used successfully to transform most commercially available competent bacteria. The turbocells from Genlantis can also be used in a novel 3-minute transformation protocol, described in the instruction manual.

## Video Link

The video component of this article can be found at <https://www.jove.com/video/253/>