Turbo Competent Cells

Cat: C1330
Size: 10×100μL
Storage: Store at -70℃ for 6 months to avoid repeated freezing and thawing; Not suitable for storage in liquid nitrogen.

Introduction:

The Turbo competent cells produced by our company are the competent cells obtained by special processing of Escherichia coli Turbo strain. Turbo strain is the fastest growing Escherichia coli strain, the clone can be seen in 6.5h on the strain plate, and the plasmid can be extracted in 4-6h after shaking the bacterium. The deletion of endA1 gene was beneficial to the production and quality of plasmid DNA. The expression of LacIq gene in the strain was strictly controlled, and the toxic gene could be cloned. The presence of ΔlacZM15 gene can be used for blue-white spot screening. The strain was also resistant to T1 phage infection. Turbo competent cells were made by special technology, pUC19 plasmid detection conversion efficiency was greater than 10^9 cfu/μg DNA.

Genotype:
F'proA$^+$B$^+$lacIqΔlacZM15/fhuA2Δ(lac-proAB)glnVgalK16galE15R(zgb-210::Tn10)TetSendA1thi-1 Δ(HDSS-MCRB)5

Strain Resistance: Sensitive to ampicillin, chloramphenicol, kanamycin, spectacular mycin, streptomycin, tetracycline.

Protocols: (The following operations are carried out according to the standard of sterile conditions)

1. Put the competent cells in an ice bath to melt. After the cells are just melted, add plasmid DNA or 5-10μL of the connection product to the cells, dial the bottom of the tube with your finger, and gently mix.
2. Let stand in an ice bath for 30min.
3. 42°C heat for 60s, do not shake.
4. Leave in ice bath for 2min.
5. Add 500μL SOC or LB medium at room temperature.
6. Placed in a shaker at 37°C, shock resuscitation culture at 150-200rpm for 60min.
7. Take 50-100μL bacterial solution and spread it on LB plate containing resistance. After the liquid was drained, the plate was turned upside down and cultured at 37℃ overnight.

(Plate scribing separation method: After the resuscitation culture, centrifuge at 12000rpm for 30s, discard the supernatant, leave about 100μL of liquid, gently blow the bacterial mass with 200μL suction head, take 10μL of suspended bacterial liquid into more drops on the plate, tilt the suction head, and use the side of the suction head to scribing the liquid dripping on the plate. This method

can obtain a larger monoclonal colony. This method is mainly suitable for plasmid transformation, and the conversion of link products is best by coating.)

(Rapid plasmid transformation steps: For ampicillin resistant plasmids, shorten the time of step 2 to 5min. After completing step 4, it can be directly coated or marked on the ampicillin resistant LB plate. Other resistant plasmids still require 60min of resuscitation culture.)

Notes:

1. The competent cells should be kept at -70℃, and cannot be frozen or thawed repeatedly, otherwise its conversion efficiency will be reduced.
2. During the experiment, aseptic operation should be strictly carried out to prevent contamination of other DNA or miscellaneous bacteria, so as to avoid influence on future screening and identification.
3. During the conversion, the conversion efficiency is proportional to the concentration of foreign DNA within a certain range, but when the amount of foreign DNA added is too large or too large, the conversion efficiency will be reduced. The volume of DNA during transformation should be less than one-tenth of the volume of competent cells.
4. Calculation of conversion rate: Conversion rate = total number of colonies produced/total amount of paving DNA.
5. In case the conversion experiment is unsuccessful, part of the junction product can be retained for re-conversion to minimize the loss.

Related Products:

I1020 IPTG solution(50mg/mL)
A1170 Ampicillin storage Solution(100mg/mL)
K1030 Kanamycin(100mg/mL)
L1015 LB solid medium(dry powder)
L1020 SOC Liquid medium(dry powder)
X1010 X-gal(20mg/mL)