Direct Plate™ Intact Genomics®

DirectPlate™ DH5-Alpha Chemically Competent Cells

Catalog #	Package Size
1013-12	12x50µl
1013-36	36x50µl

Description

Intact Genomics (ig®) DirectPlate™ DH5-Alpha chemically competent *E. coli* cells a perfect choice for researchers looking to simplify their transformation workflow by eliminating time-consuming heat shock, lengthy incubations, and outgrowth procedures. Simply mix and directly plate! Intact Genomics 'DirectPlate™' technology allows researchers to simply mix DNA and cells a few seconds, then directly spread the mixture to an appropriate selection plate. Intact Genomics (ig®) DirectPlate™ DH5-Alpha chemically competent *E. coli* cells are suitable for high efficiency transformation in a wide variety of applications such as cloning and sub-cloning.

Specifications

Competent cell type:	Chemically competent
Derivative of:	DH5-Alpha
Species:	*E. coli*
Format:	Tubes
Transformation efficiency:	≥1.0 x 10^8cfu/µg pUC19 DNA
Blue/white screening:	Yes
Shipping condition:	Dry ice

Reagents Needed for One Reaction

DirectPlate™ DH5-Alpha Chem. Competent Cells : 50 µl
DNA (or pUC19 Control, 10 pg/µl): 1 µl

Product Includes & Storage

1) DirectPlate™ DH5-Alpha cells: -80 ºC
2) pUC19 control DNA: -20 ºC

Genotype

Φ80 Δ(lacZ)M15 fhuA2 Δ(argF-lacZ)U169 phoA glnV44 gyrA96 recA1 relA1 endA1 thi-1hsdR17

Quality Control

Transformation efficiency is tested by using the pUC19 control DNA supplied with the kit and the high efficiency transformation protocol listed below. Transformation efficiency should be ≥1 x 10^8 CFU/µg pUC19 DNA. Untransformed cells are tested for appropriate antibiotic sensitivity.

General Guidelines

Follow these guidelines when using DirectPlate™ DH5-Alpha chemically competent *E. coli*.

- Handle competent cells gently as they are highly sensitive to changes in temperature or mechanical lysis caused by pipetting.
- Thaw competent cells on ice, and transform cells immediately following thawing. After adding DNA, mix by gently pipetting up and down a few times.

High Efficiency Transformation Protocol

Use this procedure to transform DirectPlate™ DH5-Alpha chemically competent cells. We recommend verifying the transformation efficiency of the cells using the pUC19 control DNA supplied with the kit. Do not use these cells for electroporation. No heat shock or lengthy incubations required.

1) Remove competent cells from the -80 °C freezer and thaw completely on wet ice (10-15 minutes).
2) Aliquot 1-5 µl (1 pg-100 ng) of DNA to the thawed tube of competent cells
3) After adding DNA, mix by gently pipetting up and down a few times.
4) Spread 25 to 50 µl from each transformation directly onto ampicillin selection plates. We recommend plating two different volumes to ensure that at least one plate will have well-spaced colonies. For the pUC19 control, plate 50 µl on an LB plate containing 100 µg/ml ampicillin. Use sterilized spreader or autoclaved ColiRoller™ plating beads to spread evenly.
5) Incubate the plates overnight at 37 °C.

Note: The procedures above are for plasmids containing Ampicillin resistant markers

Example Calculation of TE

Transformation Efficiency (TE) is defined as the number of colony forming units (cfu) produced by transforming 1µg of plasmid into a given volume of competent cells.

TE = Colonies/µg/Dilution

Transform 1 µl of (10 pg/µl) pUC19 control plasmid into 50 µl of cells, add 950 µl of Recovery Medium. Dilute 10 µl of this in 990 µl of Recovery Medium and plate 50 µl. Count the colonies on the plate the next day. If you count 100 colonies, the TE is calculated as follows:

Colonies = 100
µg of DNA = 0.00001
Dilution = 50/1000 x 10/1000 = 0.0005
TE = 100/.00001/.0005 = 2.0×10^{10}

Technical Support

Intact Genomics is committed to supporting the world-wide scientific research community by supplying the highest quality reagents. Each new lot of our products is tested to ensure they meet the quality standards and specifications designated for the product.
Please follow the instructions carefully and contact us if additional assistance is needed. We appreciate your business and your feedback regarding the performance of our products in your applications.