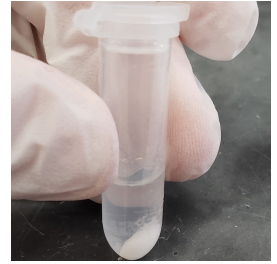


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E. coli K12 DNA Extraction V.2

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Protocol status: Working

We use this protocol and it's working

Created: February 24, 2019

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Abstract

How to extract DNA from *E. coli* K12 using Wizard® Genomic DNA Purification Kit by Promega®.

I do not claim any credit for the development of this protocol. It has been adapted from the protocol detailed in:



Wizard Genomic DNA Purification....

Materials

MATERIALS





Wizard(R) Genomic DNA Purification Kit **Promega Catalog #A1620**

Additional materials:



- 1.5 mL microcentrifuge tubes
- Isopropanol, room temperature
- 70% ethanol, room temperature
-






Culture bacteria

- 1 Culture *E. coli* K12 in BHI broth overnight.
 2 mg lyophilized *E. coli* K12 in  10 mL BHI broth.


Pellet the cells

- 2 Add  1 mL cell suspension to 1.5 mL microcentrifuge tube.
- 3 Centrifuge at 13,000-16,000 × *g* for  00:02:00 .
- 4 Remove supernatant.

Lyse nuclei

- 5 Add  600 µL of Nuclei Lysis Solution.
- 6 Gently pipet until the cells are resuspended.
- 7 Incubate at  80 °C on heating block for  00:05:00 to lyse the cells.
- 8 Cool to room temperature.

Degrade RNA

- 9 Add  600 µL RNase Solution to the cell lysate.
- 10 Invert 2-5 times to mix.



11 Incubate at 37 °C for 00:15:00 to 01:00:00 .

12 Cool to room temperature.

Precipitate proteins

13 Add 200 µL of Protein Precipitation Solution to the RNase-treated cell lysate.

14 Vortex vigorously at high speed for 00:00:20 .

15 Incubate on ice for 00:05:00

16 Centrifuge at 13,000-16,000 × *g* for 00:03:00 .

Harvest DNA

17 Transfer the supernatant containing the DNA to a clean 1.5 mL microcentrifuge tube containing 600 µL isopropanol.




Note

Some supernatant may remain in the original tube containing the protein pellet. Leave this residual to avoid contaminating the DNA solution with the precipitated protein.





18 Gently mix by inversion until the thread-like strands of DNA form a visible mass.

Wash and dry DNA



- 19 Centrifuge at 13,000–16,000 × *g* for  00:02:00 .
- 20 Carefully pour off the supernatant and drain the tube on clean absorbent paper.
- 21 Add  600 µL of 70% ethanol and gently invert the tube several times to wash the DNA pellet.
- 22 Centrifuge at 13,000–16,000 × *g* for  00:02:00 .
- 23 Carefully aspirate the ethanol.
- 24 Drain the tube on clean absorbent paper and allow to air-dry for 10–15 minutes.

Rehydrate DNA

- 25 Add  100 µL of DNA rehydration solution to the tube.
- 26 Rehydrate by incubating the solution overnight at room temperature or  4 °C .
- 27 Store DNA at  2 °C to  8 °C .