



Mar 18, 2025

Colony Express - E. Coli colony screening

DOI

<https://dx.doi.org/10.17504/protocols.io.eq2lyxzjegx9/v1>

Aime Jaskolowski¹

¹CRAG



Aime Jaskolowski

CRAG

Create & collaborate more with a free account

Edit and publish protocols, collaborate in communities, share insights through comments, and track progress with run records.

Create free account

OPEN  ACCESS



DOI: <https://dx.doi.org/10.17504/protocols.io.eq2lyxzjegx9/v1>

Protocol Citation: Aime Jaskolowski 2025. Colony Express - E. Coli colony screening. **protocols.io**
<https://dx.doi.org/10.17504/protocols.io.eq2lyxzjegx9/v1>

License: This is an open access protocol distributed under the terms of the **Creative Commons Attribution License**, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited

Protocol status: Working

We use this protocol and it's working

Created: March 18, 2025



Last Modified: March 18, 2025

Protocol Integer ID: 124571

Keywords: colony pcr, selecting positive clone, screening method, colony express, preliminary screening tool, coli, screening, positive clone, plasmid size, colony

Abstract

The "Colony Express" screening method is based on selecting positive clones according to the plasmid size contained in the colonies that grow under selection pressure (antibiotic). This method is useful as a preliminary screening tool because it is simple and inexpensive; however, **colony PCR** is always the preferred method for selecting positive clones.

Materials

Colony Express Buffer

- NaOH 0.2N
- Sucrose 20% w/v
- SDS 0.5% w/v
- 0.2% w/v Bromophenol Blue
- 30% v/v Glycerol
- Distilled water up to final volume

Agarose

TAE 1X Buffer

- 4.92 g Tris-Base
- 1.14 ml Glacial Acetic Acid
- 2 ml EDTA 0.5M pH8



Procedure

- 1 **Replica plate** the individual colonies obtained after the transformation process onto a new **LB + antibiotic** plate to obtain more starting material. Include a replica of the empty vector used for cloning as a control.
- 2 In a **96-well plate**, add **40 µl of Colony Express buffer** to each well. Using a sterile toothpick, transfer a small sample from each individual colony into the corresponding well. **Mix well to homogenize.**
- 3 Incubate for **10 minutes at room temperature.**
- 4 Load the samples onto a **0.6% agarose gel (be careful, as the gel will be very fragile!)** and run at mid-low voltage (for a large size 15cm x 20cm gel use 100 V)
- 5 Analyze the size of the clones by comparing them with the **empty vector control.**