



VERSION 1

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Protocol status: Working
 We use this protocol and it's working

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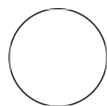
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🌐 Calcium chloride transformation buffer V.1

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ABSTRACT

Calcium chloride (CaCl₂) transformation is a laboratory technique in prokaryotic (bacterial) cell biology. The addition of calcium chloride to a cell suspension promotes the binding of plasmid DNA to lipopolysaccharides (LPS). Positively charged calcium ions attract both the negatively charged DNA backbone and the negatively charged groups in the LPS inner core. The plasmid DNA can then pass into the cell upon heat shock, where chilled cells (+4°C) are heated to a higher temperature (+42°C) for a short time.

MATERIALS

Filter
 LAF bench
 Scale


5 M Calcium chloride transformation buffer


1 Add  40 mL distilled water to a  50 mL tube

2 Measure and add  36.7525 g Calcium chloride dihydrate

Materials:

 Calcium chloride dihydrate **Sigma-aldrich Catalog #C3881**

3 Adjust pH to  7.4 with concentrated sodium hydroxide or hydrogen chloride

4 Add distilled water to  50 mL

5 Filter sterilize with a 0.2 μ m pore-size filter