VERSION 2

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OPEN ACCESS

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

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# Calcium chloride transformation buffer V.2

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ABSTRACT

**Calcium chloride** ($CaCl_2$) **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 pH 7.4 with concentrated sodium hydroxide or hydrogen chloride

4 Add distilled water to 50 mL

5 Filter sterilize with a 0.2 µm pore-size filter