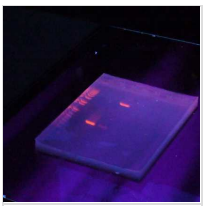

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# LAB Agarose Gel Electrophoresis Buffer Recipe

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Yeast ORFans CURE

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ABSTRACT

A recipe to make lithium acetate / borate agarose gel electrophoresis buffer. This buffer has a lower ionic strength than TAE, but maintains its ability to resolve both small and large bands.

Additionally, it is MUCH less expensive, and if you are short on time (like in a lab course!) you can run the gel at a higher voltage.

From https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0011318 via https://bitesizebio.com/25078/faster-even-cooler-dna-gels/

EXTERNAL LINK

https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0011318

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KEYWORDS

agarose, gel, electrophoresis, lithium, acetate

IMAGE ATTRIBUTION

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GUIDELINES

Use good laboratory practices for measuring weights and volumes.

MATERIALS TEXT

Lithium Acetate Dihydrate **Sigma Aldrich Catalog #L4158** Step 1

Boric acid **Fisher Scientific Catalog #BP1681** Step 2

Paper pH Strips **Thermo Fisher Scientific Catalog #13-640-508** Step 4

SAFETY WARNINGS

Lithium acetate: May cause eye and skin irritation. May cause respiratory and digestive tract irritation. The toxicological properties of this material have not been fully investigated.

Boric acid: May damage fertility. May damage the unborn child.

Wear appropriate personal protective equipment (PPE), including a lab coat, nitrile gloves and safety glasses.

25X Buffer Concentrate

1 Lithium Acetate Dihydrate **Sigma Aldrich Catalog #L4158**

Weigh out **25.5 g**

Make *sure* it's the dihydrate, not anhydrous lithium acetate! If you're using anhydrous,

weigh out **16.5 g** instead.

2 Boric acid **Fisher Scientific Catalog #BP1681**

Weigh out **15.5 g** .

3 Mix the lithium acetate and boric acid with deionized water to a final volume of **1 L**

4 Pipette a small amount onto a Paper pH Strips **Thermo Fisher Scientific Catalog #13-640-508** . Make sure the pH is between 6.5 and 7.0.

1X Buffer

5 Dilute **40 mL** of 25X stock solution with **960 mL** deionized H2O. Mix well.