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Prepare Tris Buffer for Meat identification Protocol

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Protocol status: In development
We are still developing and optimizing this protocol

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Abstract

Buffer protocol for meat identification experiment

Materials

reagents: Tris, HCl (12.1M), dd-di-DNAase free water
devices: scale, thermometer optional: incubator, magnetic stirrer or glass rod for stirring
consumables: 50 ml tube

Protocol materials

Tris **Bio Basic Inc. Catalog #**TB0196 Step 2

Hydrochloric Acid **Bioshop Catalog #**HCL333.500 Step 3

Before start

Make sure you adjust the pH to the same temperature for the reaction in which the buffer is used.

Prepare Tris Buffer for Meat identification Protocol. Prepare (50 ml) of 0.04 mol/L Tris HCl (pH 7.75)

1 Add 25 ml deionized DNAse free, dd water to a 50 ml falcon tube. Bring to to final experiment desired Celsius temperature (22 Celsius for example) and maintain. Can use an incubator for example.

2 Measure and add 0.24 g of Tris

Calculation for Tris **Bio Basic Inc. Catalog #**TB0196 *weight:*
MW for TRIS Hydrochloride (C4H11NO3 ·HCl) 121.14 mol/Liter, (Hydrochloric HCl Acid, MW: 36.46 g/mol)
*0.04 M TRIS TRIS Hydrochloride: m=CMV =0.04mol/L*121.14g/mol *50 ml=0.24 g of TRIS*
https://www.cytographica.com/lab/HHTris.html

3 Add 100 µl HCl 12.1M
Hydrochloric Acid **Bioshop Catalog #**HCL333.500

iteratively measure pH and add 1 to 2µl HCL(12M) until pH reaches 7.75. Calculator indicates 116.
https://www.cytographica.com/lab/HHTris.html

4 Add water to 50 ml

5 Store in the fridge for max 4 months

Protocol references

Normally we make half the solution and titrate with HCl

https://www.researchgate.net/post/How-to-make-a-Tris-HCl-buffer#:~:text=Tris%2DHCl%20can%20be%20prepared,is%20157.6%20g%2Fmol).

pH calculations= https://www.youtube.com/watch?v=387t-nh0OMg

https://www.cusabio.com/m-296.html#a21 for calculating Tris HCL pH from Tris and Hydrocloric acid

https://www.reddit.com/r/labrats/comments/193ei6n/trying_to_prepare_trishcl_buffer_ph_seems/?rdt=42146