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Version 1

Prepare Tris Buffer for Meat identification Protocol V.1

DOI

<https://dx.doi.org/10.17504/protocols.io.kqdg32z1zv25/v1>

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Obsolete

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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**

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

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 ($C_4H_{11}NO_3 \cdot HCl$) 121.14 mol/Liter, (Hydrochloric HCl Acid, MW: 36.46 g/mol)

0.04 M TRIS TRIS Hydrochloride: $m = CMV = 0.04 \text{ mol/L} * 121.14 \text{ g/mol} * 50 \text{ ml} = 0.24 \text{ g}$ of TRIS

<https://www.cytographica.com/lab/HHTris.html>

- 3 Add 100 μ l HCl 12.1M

 Hydrochloric Acid Bioshop Catalog #HCL333.500

iteratively measure pH and add 1 to 2 μ l 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\).](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 Hydrochloric acid

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