



Upload image

Jul 12, 2020

TAP media preparation

Joao Vitor Molino¹¹University of Zürich

1

Works for me

This protocol is published without a DOI.

Joao Vitor Molino
University of Zürich

ABSTRACT

This protocol describes the preparation of TAP media. Usually used for growing algae cells, as *Chlamydomonas reinhardtii*. The protocol is derived from the protocol described at <https://www.chlamycollection.org/methods/media-recipes/tap-and-tris-minimal/>.

[Gorman, D.S., and R.P. Levine (1965) Proc. Natl. Acad. Sci. USA 54, 1665-1669]

EXTERNAL LINK

<https://www.chlamycollection.org/methods/media-recipes/hutners-trace-elements/>

THIS PROTOCOL ACCOMPANIES THE FOLLOWING PUBLICATION

Molino JVD, Carvalho JCMd, Mayfield SP (2018) Comparison of secretory signal peptides for heterologous protein expression in microalgae: Expanding the secretion portfolio for *Chlamydomonas reinhardtii*. PLoS ONE 13(2): e0192433. doi: 10.1371/journal.pone.0192433

PROTOCOL CITATION

Joao Vitor Molino 2020. TAP media preparation. **protocols.io**
<https://protocols.io/view/tap-media-preparation-big6kbze>

MANUSCRIPT CITATION

 please remember to cite the following publication along with this protocol

Molino JVD, Carvalho JCMd, Mayfield SP (2018) Comparison of secretory signal peptides for heterologous protein expression in microalgae: Expanding the secretion portfolio for *Chlamydomonas reinhardtii*. PLoS ONE 13(2): e0192433. doi: 10.1371/journal.pone.0192433

EXTERNAL LINK

<https://www.chlamycollection.org/methods/media-recipes/hutners-trace-elements/>

KEYWORDS

Microalgae, Recombinant, electroporation, plasmid, Media, Algae, *Chlamydomonas reinhardtii*

LICENSE

————— This is an open access protocol distributed under the terms of the [Creative Commons Attribution License](https://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited

CREATED

Jul 12, 2020

LAST MODIFIED

Jul 12, 2020

PROTOCOL INTEGER ID

39166

GUIDELINES

All steps described in this protocol are intended to be conducted in a research laboratory.

SAFETY WARNINGS

Use EPIs at all times.

Concentrated acetic acid solution used during preparation.

DISCLAIMER:

DISCLAIMER – FOR INFORMATIONAL PURPOSES ONLY; USE AT YOUR OWN RISK

The protocol content here is for informational purposes only and does not constitute legal, medical, clinical, or safety advice, or otherwise; content added to protocols.io is not peer reviewed and may not have undergone a formal approval of any kind. Information presented in this protocol should not substitute for independent professional judgment, advice, diagnosis, or treatment. Any action you take or refrain from taking using or relying upon the information presented here is strictly at your own risk. You agree that neither the Company nor any of the authors, contributors, administrators, or anyone else associated with protocols.io, can be held responsible for your use of the information contained in or linked to this protocol or any of our Sites/Apps and Services.

BEFORE STARTING

- Prepare stock solutions
- Separate flasks to distribute the prepared media for autoclavation
- Separate magnetic stirrer for mixing
- Large enough beaker for media preparation
- Pipettes/volume measuring apparatus for components

Components mixing

1. Add approximately **100 % volume** of ddH₂O to a large enough beaker.
2. Add a magnetic bar and start and keep mixing with a magnetic stirrer during the preparation.
3. Place pH probe electrode in the solution for pH monitoring, and for **1 L final media volume**
4. Add **10 mL 2M Tris base (e.g. Trizma)**
5. Add **10 mL Solution A**
6. Add **1 mL Phosphate solution**
7. Add **1 mL Hutner's trace solution**
8. Add **1 mL Glacial acetic acid**, then add drops until **pH7** is reached
9. Stop mixing, and add dd H₂O until **1 L final volume** is reached
10. Start mixing again until complete mixing is achieved. (A few minutes should suffice).

Components concentration and informations.

Stock solution	Component	Amount g/mL for 1L	Molecular weight	Final mM
Solution A	NH ₄ Cl	15	53,491	7,01
	MgSO ₄ . 7H ₂ O	4	120	0,83
	CaCl ₂ . 2H ₂ O	2	147,015	0,34
Phosphate solution	K ₂ HPO ₄	28,8	174,2	0,0620
	KH ₂ PO ₄	14,4	136	0,0397
Tris Solution	Tris	2,42	121,14	19,97
Acetic acid	Acetic Acid Glacial	~1,05	60,05	~17,5

Hutner's trace composition and protocol for preparation can be found [here](#).

Liquid transfer

- 2 1. Transfer the newly prepared media to flasks for autoclavation

Typically:

1L flasks with blue caps

Erlenmeyers with a max volume capacity of 100 mL are filled with 50 mL, capped with aluminium foil (2 layers)
Erlenmeyers with a max volume capacity of 500 mL are filled with 250 mL, capped with aluminium foil (2 layers)

Autoclavation

- 3
 1. Place flasks inside the autoclave (For flasks with lid, make sure it is loosen enough to allow vapor passage)
 2. Set autoclavation to **121 °C** for at least **00:15:00** , 15 psi.
 3. After autoclavation, wait media to cool down and it is ready for use.