



\*Red text is to be completed by The Society after review

\*Blue text is to be replaced with protocol details

\*Green text is general advice

## This is not a protocol

Corresponding author: [Author and email]  
List of authors: [Author\_1, Author\_2, etc.]  
Group leader: [Group leader and email]  
Institution: [University or research center associated with the Group leader]

Zenodo DOI: [To be added after scientific review by the Society for Archaeal Biology]

Protocol Category: [Restate the category provided in the submission form]  
Model organism(s): [List the model organism(s) for which the protocol is relevant]  
Tags: [5-8 tags to help searches - to be replicated in the online submission form]

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### Abstract

[State the purpose of the protocol, introduce the research field, provide context by mentioning alternative methods, summarize the protocol, and finish by stating advantages (roughly 8-11 sentences)]

Related publication(s): [indicate if this protocol is published or adapted from a specific publication]

### Background

[Provide a short account of the field for which the protocol is relevant. Review previous versions and alternative methods for the protocol. Highlight advantages and drawbacks. Discuss use cases.]

Please reference using the Harvard style throughout (“Ithurbide and Risa et al., 2022”).

### Materials

Where relevant, advise on storage and shelf-life.

| Product name | Brand | Manufacturer | Catalogue number | Notes |
|--------------|-------|--------------|------------------|-------|
|              |       |              |                  |       |
|              |       |              |                  |       |
|              |       |              |                  |       |

| Product name | Brand | Manufacturer | Catalogue number | Notes |
|--------------|-------|--------------|------------------|-------|
|--------------|-------|--------------|------------------|-------|

## Equipment

Please provide all the equipment apart from common, lab-ware unless crucial for the protocol success. In that case this should be clearly mention in the protocol notes too.

| Equipment name | Brand | Manufacturer | Catalogue number | Notes |
|----------------|-------|--------------|------------------|-------|
|                |       |              |                  |       |
|                |       |              |                  |       |
|                |       |              |                  |       |
|                |       |              |                  |       |

## Software and bioinformatics tools

| Software/tool/script | Company/Developer | Version | Web address | Github repository |
|----------------------|-------------------|---------|-------------|-------------------|
|                      |                   |         |             |                   |
|                      |                   |         |             |                   |
|                      |                   |         |             |                   |
|                      |                   |         |             |                   |

## Protocol

[Enter Step by Step protocol here. Incorporate tips and tricks as notes. Example given below]

### A. Step 1 (e.g., Gene cloning)

1. Isolate DNA from tissues
2. Set up RT-PCR reaction
  1. Note: only use filtered tips from this step
  3. ...

### B. Step 2 (e.g., cell transformation)

1. Put competent cells on ice
2. Note: competent cells were prepared as protocol (reference or link)
2. Add the plasmids into competent cells
3. ...

## Style notes

- Write in present tense with an active voice (e.g., "Prepare stock solutions and reaction mixtures under anaerobic conditions" instead of "Stock solutions and reaction mixtures were prepared under anaerobic conditions").

- For figures and tables:
  - Minimum of 300 dpi resolution
  - 8–12-point text
  - Embed figures and tables in the text
  - Give each figure and table a title and legend
  - Include scale bars where applicable (e.g., microscope images).

## Data analysis

[Advise on data processing and analyses, including data formatting, criteria for data inclusion/exclusion, statistical tests, software and bioinformatic tools (which should be listed in the dedicated area above) etc.]

## Recipes

[Describe ingredient recipes where these cannot easily be purchased outright.]

## Additional Notes (optional)

[Provide bullet points on handling, tricks of the trade, and warnings of potentials pitfalls. Exemplified below]

- This protocol will most likely to be working for other haloarchaea, however step A.1 and B.2 are crucial for proper preparation of the spheroblasts.
- Only pure grade NaCl should be used for the culturing media. Moreover, trace elements present in all ACME Corporation products suggest that these should not be used by coyotes.

## Trial and error (optional)

[Use this section to discuss negative results obtained during the elaboration of the protocol, what has been tried, what didn't work, etc....]

Examples:

- Several DNA extraction kits were tested for Step A:1 such as XXXX,YYYY, ZZZZ. The kit XXXX gave the purest and highest concentration of DNA. The kit YYYY and ZZZZ didn't work .....
- We have compared two methods to establish this protocol. As shown on figure X , the method B gave better results than method A. ....

## Competing interests

[Provide a statement of financial and non-financial competing interests on behalf of all authors. Examples include paid employment or consultancy, stock ownership, patent applications, personal relationships with individuals involved in the submission or evaluation of a protocol, and receipt of funding or free products from the vendors]

of the reagents/equipment or other advertisers. If there are no conflicting interests, simply state the following: the authors declare that they have no conflict of interest.”]

## Acknowledgments

[Acknowledge funding sources, collaborators, and the research this protocol was derived from.]

## References

Format references using Harvard style.

1. Ithurbide S, Gribaldo S, Albers SV, Pende N. Spotlight on FtsZ-based cell division in Archaea. *Trends Microbiol.* 2022 Jul;30(7):665-678. doi: 10.1016/j.tim.2022.01.005. Epub 2022 Mar 1. PMID: 35246355.
2. Tarrason Risa G, Hurtig F, Bray S, Hafner AE, Harker-Kirschneck L, Faull P, Davis C, Papatziadou D, Mutavchiev DR, Fan C, Meneguello L, Arashiro Pulschen A, Dey G, Culley S, Kilkenny M, Souza DP, L, de Bruin RAM, Henriques R, Snijders AP, Šarić A, Lindås AC, Robinson NP, Baum B. The proteasome controls ESCRT-III-mediated cell division in an archaeon. *Science.* 2020 Aug 7;369(6504):eaaz2532. doi: 10.1126/science.aaz2532. PMID: 32764038; PMCID: PMC7116001.

*This protocol template was inspired by the Bio-protocol Manuscript template*