

Jun 01, 2024

# Subsampling Ethanol Preservative from Zooplankton Museum Collections for DNA Extractions

DOI

dx.doi.org/10.17504/protocols.io.j8nlk888wl5r/v1



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Protocol Citation: Andreas Novotny 2024. Subsampling Ethanol Preservative from Zooplankton Museum Collections for DNA Extractions. protocols.io https://dx.doi.org/10.17504/protocols.io.j8nlk888wl5r/v1

## Manuscript citation:

Andreas Novotny, Caterina Rodrigues, Loïc Jacquemot, Rute B G Clemente-Carvalho, Rebecca S Piercey, Evan Morien, Moira Galbraith, Colleen T E Kellogg, Matthew A Lemay, Brian P V Hunt, DNA metabarcoding captures temporal and vertical dynamics of mesozooplankton communities, ICES Journal of Marine Science, Volume 82, Issue 2, February 2025, fsaf007,

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Protocol status: Working

This version of the protocol is published as a supplementary to: Andreas Novotny, Caterina Rodrigues, Loïc Jacquemot, Rute B G Clemente-Carvalho, Rebecca S Piercey, Evan Morien, Moira Galbraith, Colleen T E Kellogg, Matthew A Lemay, Brian P V Hunt, DNA metabarcoding captures temporal and vertical dynamics of mesozooplankton communities, ICES Journal of Marine Science, Volume 82, Issue 2, February 2025, fsaf007, https://doi.org/10.1093/icesjms/fsaf007

Created: May 30, 2024 Last Modified: June 01, 2024

Protocol Integer ID: 100973

Keywords: ethanol preservative from zooplankton museum collection, dna from archived sample, dna extraction, dna extractions this protocol, subsampling ethanol preservative, actual zooplankton biomass, archived sample, zooplankton museum collection, dna, ethanol, sample

## **Abstract**

This protocol is used to sample DNA from archived samples preserved in ethanol, without having to subsample or split the actual zooplankton biomass.



# Guidelines

# MIOP: Minimum Information about an Omics Protocol

| MIOP Term                         | Value   |
|-----------------------------------|---|
| MIOP Term                         | value   |
| analyses                          | Nucleic Acid Extraction   |
| audience                          | scientists  |
| broad-scale environmental context | marine biome ENVO_00000447  |
| creator                           | Andreas Novotny   |
| environmental medium              | sea water [ENVO:00002149]   |
| geographic location               | North Pacific Ocean [GAZ:00002410]  |
| hasVersion                        | 1   |
| issued                            | 2017  |
| language                          | en  |
| license                           | CC BY 4.0   |
| local environmental context       | coastal sea water [ENVO: 00002150]  |
| materials required                | Sterile workbench, Fume Hood, Centrifuge, Incubator                           |
| maturity level                    | Mature  |
| methodology category              | Sample collection   |
| personnel required                | 1   |
| project                           | Biomolecular surveys of marine biodiversity in the<br>Northern Salish Sea, BC |
| publisher                         | Hakai Institute, Ocean Observing Program                                      |
| purpose                           | DNA Extraction  |
| skills required                   | sterile technique   pipetting skills  |
| target                            | DNA   |
| time required                     | 1 day   |

# **AUTHORS**

| PREPARED BY All authors known to have contributed to the preparation of this protocol, including those who filled in the templa | te. AFFILIATION                      | ORCID (visit https://orcid.org/ |
|---|--------------------------------------|---------------------------------|
| Andreas Novotny   | University of<br>British<br>Columbia | https://orcid.org/0000-0001-    |

# **RELATED PROTOCOLS**

| PROTOCOL NAME AND LINK | ISSUER / AUTHOR                       | RELEASE / ACCESS DATE |
|------------------------|---------------------------------------|-----------------------|
|                        | · · · · · · · · · · · · · · · · · · · |                       |

This is a list of other protocols which should be known to users of this protocol. Please include the link to each related protocol.

# **ACRONYMS AND ABBREVIATIONS**

| ACRONYM / ABBREVIATION | DEFINITION |
|------------------------|------------|
|                        |            |

# **GLOSSARY**



| SPECIALISED TERM | DEFINITION |
|------------------|------------|
|                  |            |

#### **BACKGROUND**

This protocol is used to sample DNA from archived samples preserved in ethanol, without having to subsample or split the actual zooplankton biomass.

### Spatial coverage and environments of relevance

As part of the Hakai Institute Ocean Observing Program, biomolecular samples have been collected weekly, from 0 to near bottom (260 m), to genetically characterize plankton communities in the Northern Salish Sea since 2015, developing a climatology from which we can begin uncover the physical, chemical and biological drivers of community and functional change in the dynamic coastal waters of coastal British Columbia.

This protocol has been used as an alternative source of genetic information, when it is not practical to remove biomass from the zooplankton samples.

#### Personnel Required

1 Technician

### Safety

Identify hazards associated with the procedure and specify protective equipment and safety training required to safely execute the procedure!

### Training requirements

Sterile technique, pipetting skills. Work-safe laboratory practices.

### Time needed to execute the procedure

1 h

### Protocol materials

Sterivex Filter (0.2 um) Merck Millipore (EMD Millipore) Catalog #SVGPL10RC

### Troubleshooting

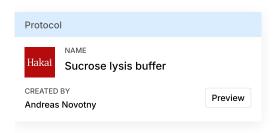
# Before start

 ${\it Read background information, MIOP and BePOP-OBON information under the "Guidelines" tab.}\\$ 



# **PREPARATIONS**

1 Prepare Sucrose Lysis Buffer (SLB):



### **ETHANOL SUBSAMPLING**

- 2 To re suspend DNA in the zooplankton sample, invert the sample jar three times.
- 3 Let settle for 30 minutes
- 4 Use a serological pipette to remove 50 ml of the ethanol preservative, and transfer to a 50 mL falcon tube.
- 6 Seal the outflow of the filter with parafilm.
- 7 Add 1800  $\mu$ L sucrose lysis buffer (SLB).
- 8 Seal the inflow opening with parafilm.
- 9 Label filter units and store them at -80°C for downstream DNA extraction.

# **DNA EXTRACTION**

10 Follow the same extraction procedures as for Environmental DNA:



11 Alternative extraction method:



