DNA Ethanol Precipitation (SOP009.v1.1) V.1

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Oct 06, 2021

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Human Cell Atlas Method Development Community

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Document Summary: This document, SOP002 - DNA Ethanol Precipitation, describes a method to concentrate or dry DNA using ethanol to reduce the solubility of dissolved DNA causing it to precipitate out of solution. Alternatively, a vacuum concentrator can be used if one is available.

DNA Ethanol Precipitation, SOP009.v1.1.pdf

Rory Kruithoff, Douglas Shepherd 2021. DNA Ethanol Precipitation (SOP009.v1.1). **protocols.io** https://protocols.io/view/dna-ethanol-precipitation-sop009-v1-1-byc7pszn

protocol

From Qiagen: https://www.qiagen.com/it/resources/faq?id=5d591b8b-968a-4a17-849f-9d0f719b40af&lang=en&Print=1

DNA, ethanol, ethyl alcohol, precipitation

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Required Reagents

- Sodium
- Acetate **Sigma Catalog #S2889-250g**
- Ethanol 99.5% ACS
- Reagent **Thermofisher Catalog #AC615090010**
- Nuclease-free water

Required Equipment

- Microcentrifuge
- Sterile Eppendorf tubes
- -20°C Freezer

For hazard information and safety warnings, please refer to the SDS (Safety Data Sheet).

Quick Overview:

Step 1 – Precipitate DNA
Step 2 – Pellet DNA and dry
Step 3 – Resuspend DNA

v1.1 revision notes

1. *Updated SOP to standard formatting*
2. *Updated document description*

Precipitate DNA 2h

1 Add 1/10 volume of 3 M Na-Acetate pH **5.2**, and 2 to 2.5 volumes of ice-cold 100% ethanol to the DNA sample.

2 2h

Mix, and store at **-20 °C** for at least **01:00:00** to precipitate the DNA. Typically, DNA will be left at **-20 °C** **Overnight** before proceeding to part 2.

Pellet DNA and dry 35m

20m

3 

Recover the precipitated DNA by centrifugation at full speed in a microcentrifuge for **00:15:00** - **00:20:00** to form a pellet.

4 Pour off the ethanol and wash the pellet twice with **Room temperature** [M]**70 % (v/v) ethanol** .

5 Allow the DNA pellet to air-dry.

Resuspend DNA

6 Re-suspend the DNA in a suitable volume of sterile TE buffer or nuclease-free water.

7 Store at **-20 °C** and avoid any unnecessary freeze-thaw cycles.