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DESS (DMSO/EDTA/NACL) Protocol

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Protocol status: Working

We use this protocol and it's working

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Abstract

DESS (DMSO/EDTA/NACL) protocol instructing how to make the solution for the preservation of samples.



Make 2L stock solution of 0.5M EDTA; if stock is already made, proceed to step 4.

- 1 Combine  372.24 g **disodium EDTA** and  500 mL deionized water.
Tip: Disodium EDTA is labeled PINK in the Bik Lab.
- 2 Add enough **5M NaOH** to the solution to bring it to a pH of  8.0
Tip: NaOH is labeled GREEN in the Bik Lab.
Tip: In some cases, this can be as much as 500 mL. The EDTA will begin to dissolve around a pH of  7.0 .
- 3 Bring final volume to  2 L with deionized water once all disodium EDTA has dissolved.

Prepare 2L DESS from 0.5M EDTA.

- 4 Combine  1 L **0.5M disodium EDTA**,  400 mL **Dimethyl Sulfoxide/DMSO**, and  600 mL **deionized water** in a 4000 mL Erlenmeyer flask.
Tip: 0.5M disodium EDTA is labeled YELLOW and Dimethyl Sulfoxide/DMSO is labeled ORANGE in the Bik Lab.
- 5 Put magnetic stir bars in the solution and place flask onto a hot plate. Turn the magnetic stirring function on and leave it at room temperature.
- 6 Add enough **NaCl** to saturate the solution: Add NaCl in 100g increments until 300g is reached, and then proceed to adding smaller amounts until salt is no longer dissolving. Solution should saturate with the addition of ~300-400g NaCl.
Tip: NaCl is labeled RED in the Bik Lab.
Tip: This step can take hours: BE PATIENT. There may be leftover salt residue once the solution is fully saturated.