

PREPARATORS GUIDE: RECIPES FOR LAB 2

ALBUMIN AND NaCl SOLUTION:

Make shortly before pick up. Store tubes in refrigerator

0.25 M NaCl

Dissolve 1.49g NaCl in 1.0 L of H₂O.

200 ug/ml ALBUMIN SOLUTION

Weigh out 0.2g albumin.

Sprinkle the albumin on top of the NaCl solution in the beaker, keeping the powder away from the sides of the beaker. Cover the beaker to keep dust from falling in and let it stand for 30 minutes. The albumin will dissolve itself in this time. Don't try and stir the albumin before the 30 minutes is up or the albumin will stick to the stirring rod.

After the 30 minutes is up, stir gently to get a little more albumin to dissolve, then filter the solution to get out the big chunks before you load it into the sterile tubes with caps.

Refrigerate.

Before issuing it to the students, look in a few tubes to be sure there aren't any undissolved chunks of albumin or drifting microorganisms.

BRADFORD SOLUTION

Use full strength.

Each station needs about 3 ml per section, so put correct multiples of 3 ml in the tubes before they go out.

Store the stock bottle in the refrigerator and keep the sealed tubes in there as much as possible.

When tubes are returned partially full, consolidate the samples into fewer tubes and discard empty tubes, rather than adding fresher Bradford. In this way the Bradford will get used over.

PD-10 COLUMNS (OR NAP-10 - they are essentially the same)

Columns are gradually degraded by bacteria once the preservative they come filled with is flushed out, but they are good for many reuses as long as they are properly taken care of.

1.) Keep Wet

Do not allow them to run dry and then stand for long periods of time

2.) Try not to drop the columns

The columns will develop gaps in the sephadex.

3.) Keep refrigerated as much as possible

Beware: If they get too close to the freezer and freeze, they won't work any more.

4.) If a student stops the experiment in the middle, the teacher should flush the with one filling of deionized, add 1 cm or more of DI, cap it and refrigerate until next use.

LAB MANAGEMENT SUGGESTIONS - LAB 2

Preparation:

Allow plenty of time to get the columns securely attached to ring stands with tape. (columns sag and droop if tape is not tight)

In order to be ready for the next section:

Have departing students do the following tasks.

Check to be sure the column contains about 1.0 cm of DI H₂O and is capped at the top and bottom.

Dispose of 1.5 ml tubes

Dispose of Albumin/NaCl tube

Dispose of used transfer pipets

Empty waste cup and electrode rinsing cup into sink

Before the next section convenes:

Distribute to each station zip-lock bag previously filled with 11 1.5 ml tubes, 1 tube of Albumin/NaCl, and 2-3 transfer pipets.

When the next section checks their list of supplies:

Be ready to replace the occasional missing tube.

Have one or two extra columns ready to go in case of clogging. (Rarely happens unless column has been dropped or has been left dry for hours).

Returning materials:

Please return all equipment and supplies with the following exceptions:

- 1.) Dispose of any tubes that have been at any student station
- 2.) Dispose of any unused tubes of Albumin/NaCl and Bradford reagent that *have not* been refrigerated for most of the time you have had the kit.

SPECIAL REQUEST TO TEACHERS REGARDING USE OF RELATIVELY EXPENSIVE SUPPLIES (LABS 3, 4, AND 5).

If you have multiple sections:

You will receive several duplicate tubes of DNA and/or of restriction enzyme. Each set has enough for one section, plus a little extra in case of problems.

We ask that you use up one tube fully before opening the next section's tube. Maybe you will have an unopened tube left over after several sections. When you return the unopened tube, it conserves the grant's resources.

Whether or not you have multiple sections:

If you have a tube that still contains material, but that has been opened and partly used up, please mark the tube with a marking pen (black dot on the lid) before returning to us, so we will know to measure contents before we sent that tube out to another teacher.

In lab kits 4 and 5:

Please save all the 1.5 ml colored tubes that come in the kit. Throw away all the white 1.5 ml white tubes.