

Protocol

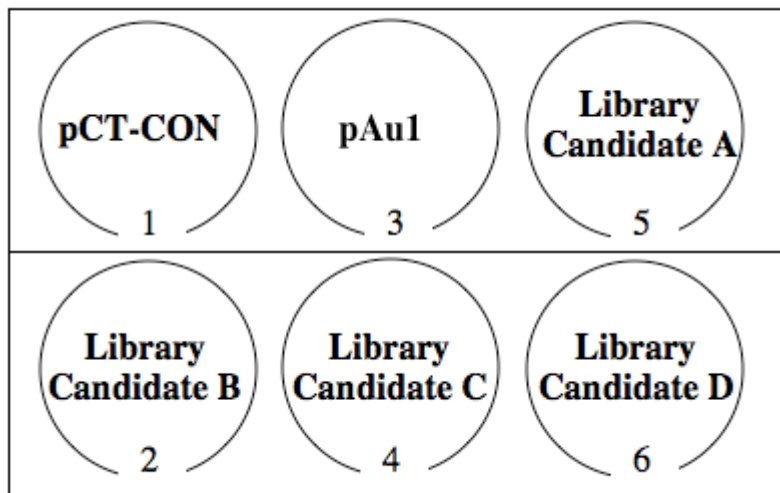
Part 1: Optimization results

Record the number of colonies that arose from the optimization experiment you performed last time. You should compare these numbers to the control samples in the library screen, for which you followed the “standard” protocol.

Part 2: Retesting candidates for gold-binding

Two days ago you examined the Petri plates from your library screen and, if possible, you moved four colonies into 4x 2.5 ml of glucose-containing media to grow at 30°C overnight. Yesterday a small amount of those cultures was moved to 5 ml of galactose-containing media to grow at room temperature. Control samples of pCT-CON and pAu1 were also induced.

Now you should repeat the panning experiment with the controls and your four candidates. If you discovered something great with your optimization experiment, you might want to modify the standard protocol. Otherwise, follow the same procedure as you did for the initial library screen.



Part 3: Research proposal

You should be on your way to becoming an expert on your research topic. In the past few days you've probably read a lot about it and you may feel

- (a) like there's too much to read
- (b) like you have too many ideas and no way to map or prioritize them
- (c) like you don't understand what you're reading
- (d) all of the above.

One of the best ways to help frame the problem for yourself is to discuss it with someone new. While your yeast are incubating with the gold slides, you will have time to talk with a person from **another** lab group. This person will offer you a fresh ear to consider your proposal. Try to describe your research problem to them. Articulate why it's important. Tell them about some recent, relevant data. Describe what you're proposing to do and what the findings from your experiments might reveal. Throughout your discussion, keep careful track of the questions they ask since these will point you to the confusing concepts or fuzzy parts of your explanation or understanding.

Then be a good listener to hear the proposal that they've been working on. Ask lots of questions. No questions are dumb. You are there to offer a naive ear and seek complete explanations. You will have time at the very end of class to reconvene with your own lab partner to hear how their conversation went. Try to identify repeated questions or concerns since these are probably the holes in the project as it stands. You can rework your proposal based on the conversations you've had.