

Archiving plasmids, bacterial stocks and sequencing runs in the KR lab

Database:

We use Quartzzy to track lab inventory; this document describes the numbering system you should use to track your samples so that anyone can find (and use) your plasmids, strains, etc. easily. You will maintain two types of inventory files: one set will reflect your personal stocks (kept in your own -20 and -80 space, these are typically things you are actively working with/using) and one set will be “archived” materials – kept in the locked portion of the -80. The archived set is critical – this is what the lab relies on if an outside person makes a materials request, or if someone new joins the lab and needs to pick up on an established project. It is also a failsafe for yourself, in case you need to return to an old tube of a construct. For this reason there are two important rules for the archive – archive *regularly* and *accurately*. This means your materials should be up to date, your description should be complete and correct, and don’t put any plasmids/constructs/strains in the database until they’ve been sequence verified! When you leave the lab all essential reagents should be in the “archived” (locked) portion of the -80, and all personal stocks should be physically and electronically removed.

Each sample/stock type has an alphabetical prefix, and an associated Quartzzy inventory type.

p = plasmids

g = glycerol stocks associated w/ plasmids

st = strain stocks

sq = Next gen sequencing samples

o = primers/oligos

Plasmids: are numbered sequentially as follows: p(Initials)(box number)(place number)

Example: pCI 201

Generated by Chris Ingle (CI)

Box #2

Place #1

Since there are only 81 places in a freezer box, stocks are numbered: 101-181 in box 1; 201-281 in box 2, and so on. For each plasmid, you’ll create a Quartzzy plasmid stock inventory item, and should fill out the following fields at a minimum:

- Item Name: stock number (as above)
- Technical Details: construct name
- Location
- Attach files: plasmid map
- insert
- parent vector
- origin of replication
- antibiotic resistance

Primers/Oligos: are numbered sequentially following the convention for plasmids, but with the prefix “o”: o(Initials)(box number)(place number)

Example: oCI 201

Generated by Chris Ingle (CI)

Box #2

Place #1

Please group primers/oligos by project as best possible. For each oligo, you’ll create a Quartzly oligo inventory item, and at a minimum should fill out the following fields:

- Item Name: stock number (as above)
- Technical Details: what the primer is for
- Location
- Applications – check which is appropriate
- Binds to (target for primer)
- Concentration (100 uM expected)
- Melting temperature (actual for annealing region, use Santa Lucia in MacVector)
- sequence
- additional notes on primer design may be attached as a file

Glycerol stocks: There are two types of glycerol stocks: stocks of new strains/genotypes, and stocks storing a plasmid.

For new strains: The naming convention for new strains is st(StrainName), i.e. stXL1Blue or stER2566. For each strain, you’ll create a Quartzly strain inventory item, and fill out the following fields:

- Item Name: stock number
- Technical Details: strain name
- Location
- Strain designation: two-letter abbreviation (see below)
- Genotype
- Antibiotic resistance
- Culture notes (does this strain need special media, or temperature?)
- paper reference (if associated to a publication)

For plasmid glycerol stocks: Glycerol stocks that carry a plasmid should be numbered to match, with an additional two-letter strain designation.

Example: gCI 201XL

Generated by Chris Ingle (CI)

Contains plasmid pCI 201
In XL1Blue Cells

Since the information about the plasmid and strain should be fully specified by the stock number, you don't have to enter much additional information into quartzy – just add a glycerol stock inventory item with the stock number and any notes you think are necessary. A list of common strain designations (see quartzy for more detail):

XL = stXL1Blue

DH = stDH5alpha

MM = stMM5000 (motility strain)

ER = stER2566

Sequencing Runs: A portion of any next-gen sequencing sample (sufficient to permit at least one more sequencing run) should be archived as sq(Initials)(6-number date).

Example: sqCI 140502
Generated by Chris Ingle (CI)
Sequenced on May 2, 2014

Add a NextGenSeq Inventory item, and enter the following information:

- Item Name: stock number
- Technical Details: experiment name
- Description
- paper reference (if associated to a publication)

Permanent (locked) archive policy:

You should keep copies of all stocks in the permanent archive! Permanent archive inventory entries in Quartzly are identical to regular inventory, but the stock number is preceded with a "A". Archive materials should be given to Chris, and she'll store them in the -80 archive space. WHEN YOU LEAVE THE LAB, ALL MATERIALS SHOULD BE IN THE PERMANENT ARCHIVE!!!