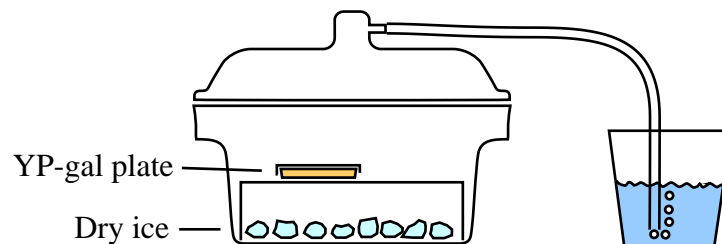


Detection of *gal* Mutations.

Mutations in certain genes in the galactose metabolic pathway will interfere with efficient galactose induction. One such mutation is the *gal3* mutation that is present in some strains but is often undocumented. To detect the presence of *gal* mutations we use the following procedure to prevent the use of the oxidative pathway and force cells to use the galactose present in the media.

1. Replica plate your strain and a Gal⁺ strain (positive control) to a YP-galactose plate (see recipe below).
2. Set up a dessicator with a tube connected to the lid as shown in the diagram. Underneath the platform place some dry ice and place your plate on top of the platform. Cover with the lid to make an air tight seal.
3. Place the entire apparatus in a 30° incubator and stick the end of the tubing in a beaker of water allowing the CO₂ to bubble out of the dessicator into the water. This effectively replaces the O₂ in the chamber with CO₂. *Gal3* mutants should not grow under these conditions.



YEP-Gal plates

10 g yeast extract
20 g bacto peptone
2g agar
8 ml 0.5% adenine in 0.05N HCl for use with *ade* mutants
850 ml total

Autoclave medium. Allow to cool but not solidify, and add 20 g galactose dissolved in 150 mls water (filter sterilized).

See the Haber Lab web page <http://www.bio.brandeis.edu/haberlab/jehsite/protocol.html> for the most recent version of this protocol.