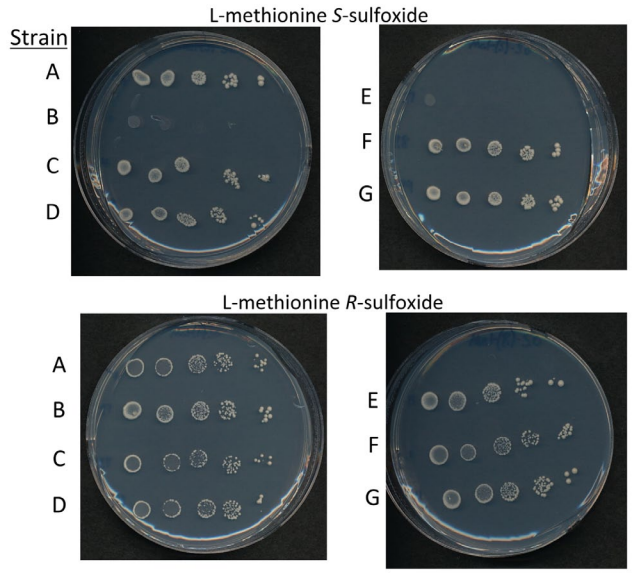
Micro-report 1: Selective plating experiment

The figure is at the heart of every micro-report. This multi-panel figure of a spot plating experiment was prepared by students in an advanced lab class.



Growth on restrictive media containing methionine sulfoxide diastereomers Strains A-G were spot plated on SC media containing either 20 mg/L L-methionine-*S*-sulfoxide or 20 mg/L L-methionine-*R*-sulfoxide in the place of methionine. Strains A-F were constructed from the genotype *met15 his3 leu2 ura3*. Strains carried the additional mutations, as follows: A (none), B (*msra*), C (*msrb*), D (*frmsr*), E (*msra msrb*), F (*msra frmsr*), G (*msrb frmsr*). Plates were incubated for 3 days at 30 degrees C.

Note the following features of the figure:

- Plates are oriented in the same direction so they can be easily compared
- Strains and media are labeled. Strain names can be used in the figure itself or indicated by a code that is defined in the legend.
- Strain names are used when the genotypes of strains are uncertain (your experiment). This figure presents results from an experiment where genotypes were known.
- The reader will need to refer to the M&M section for additional details about the media and experiment.

Specific guidelines for Micro-report 1 follow.

Purpose: You have three yeast strains derived from strain, BY4742. In one sentence, what are you trying to do in this experiment?

Materials and Methods: In preparing the M&M, ask yourself "What information will an investigator need to reproduce our experiments?" Provide information on the strains and media that you used, as well as the procedures that you used for spot plating.

Strains: Include the names of your strains as well as the genotype of the BY4742 parent strain.

Media: Identify the culture media you used in the experiments. Decide on a naming convention - the same nomenclature should be used in both the figure and M&M. Reference the manual for the composition of the media, rather than including all the components here.

Spot plating: Someone trying to reproduce your results will need to know how your starter cultures were generated (cultures were grown overnight in YPD) and how cultures were diluted for the spot plates (*e.g.* a series of 1:10 dilutions in sterile water). They do NOT need to know that you transferred 10 µL yeast culture to 90 µL water. Readers will need to know how many microliters were used for each spot and the conditions used to incubate (time, temperature) the plates.

Results and Discussion - Your figure with the scanned plates is the focal point of this section. The R&D section tells a story of how you used your plating data to identify the *met* deletions in the YMP strains. Provide a brief narrative that guides your reader through your results and your thinking. How would deletions in your *MET* genes affect the ability of your YMP strains to use different sulfur sources? Do the data allow you to confidently identify the strains?

A **single** summary data table documenting the growth of YMP and BY4742 strains on various culture media is a good way to bring together the experimental data and your conclusions. Describe the growth of the *met* deletion strains on the various media and include your preliminary strain identifications from the experimental data.