Group Three Final Presentation

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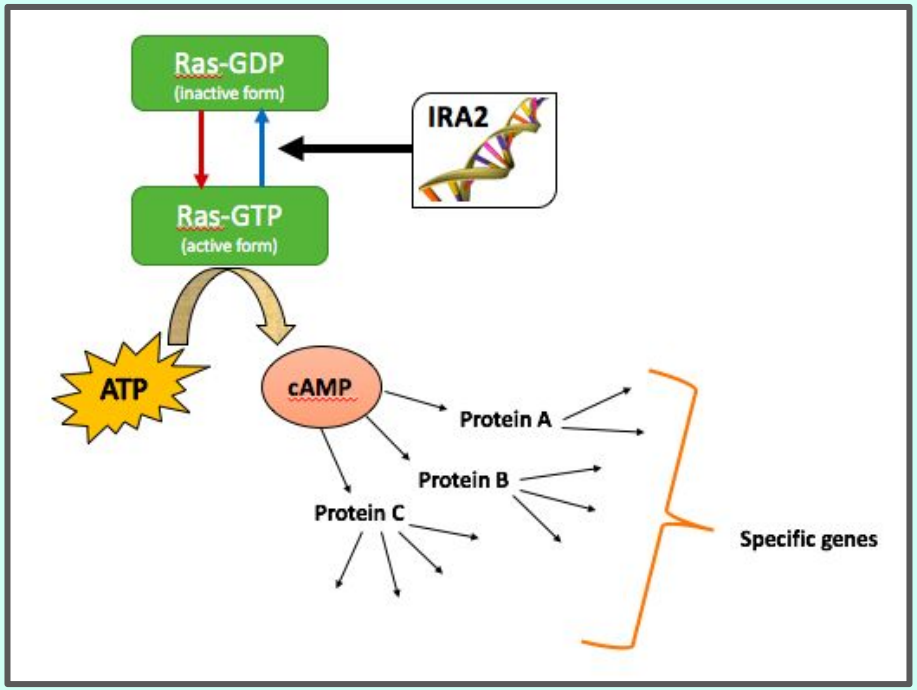
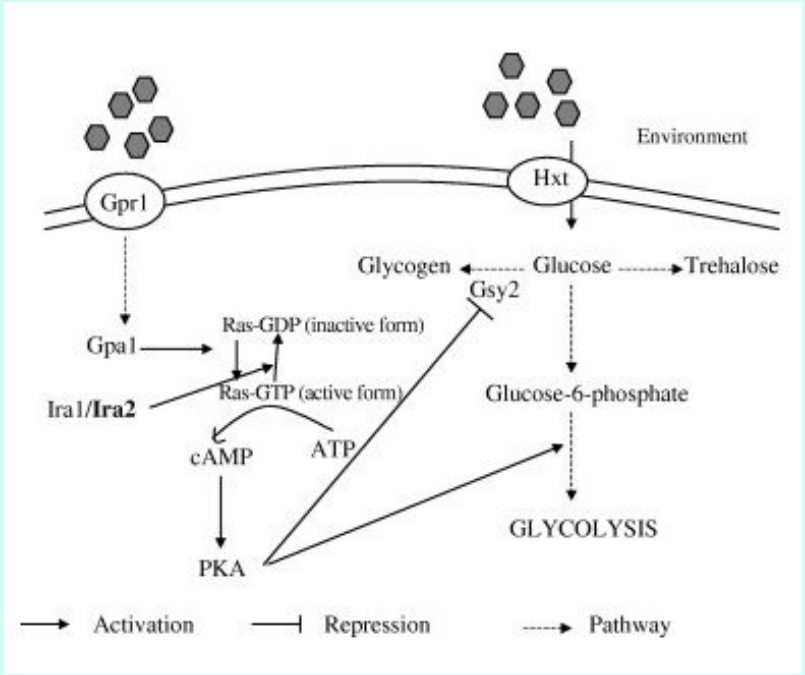
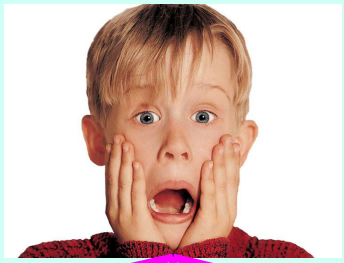
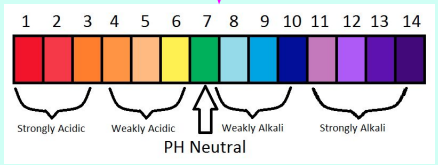
IRA2


Ras-GDP
(inactive form)
IRA2
Ras-GTP
(active form)
ATP
cAMP
Protein A
Protein B
Protein C
Specific genes


Environment
Gpr1
Hxt
Glycogen
Glucose
Trehalose
Gsy2
Gpa1
Ras-GDP (inactive form)
Ras-GTP (active form)
Ira1/Ira2
Glucose-6-phosphate
cAMP
ATP
GLYCOLYSIS
PKA
Activation
Repression
Pathway

Hypothesis





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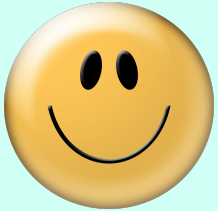
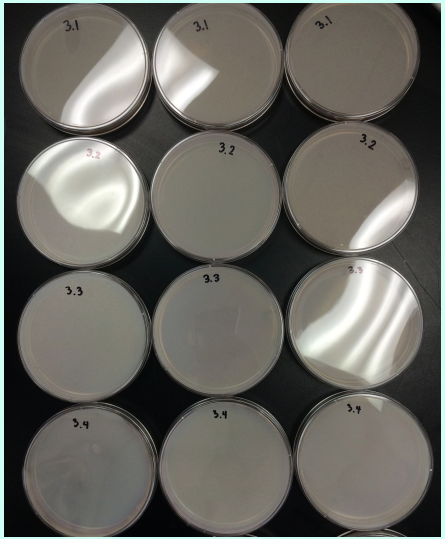
Mutant →

Wild-type →

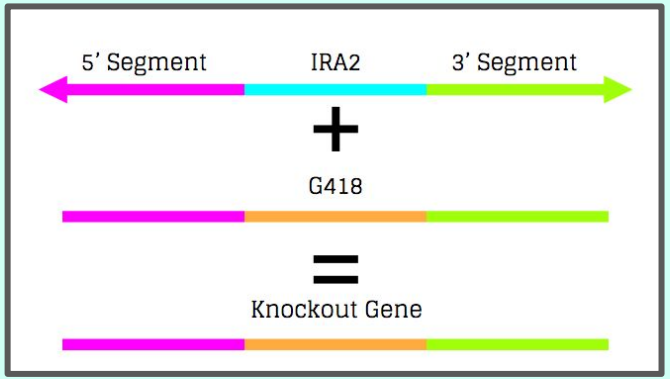


If we remove the IRA2 gene from the yeast strain *Saccharomyces cerevisiae*, the IRA2 knock out (mutant) will exhibit a less efficient response to stressors, pH and temperature, and competition than the wild type yeast. This will cause the wild-type to exhibit more growth than the mutant.

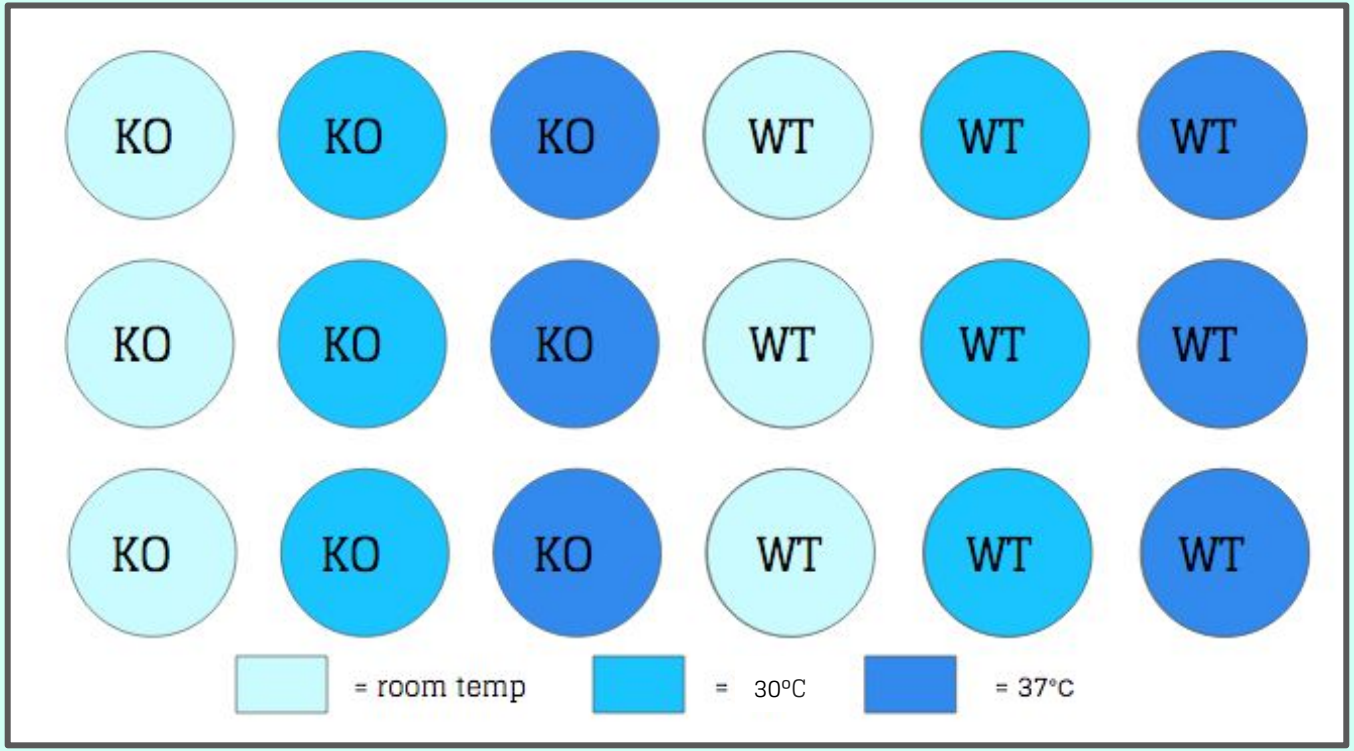
Methods



- Engineering the Mutant
- Measuring Diameter
- Spectrophotometer
- FACS

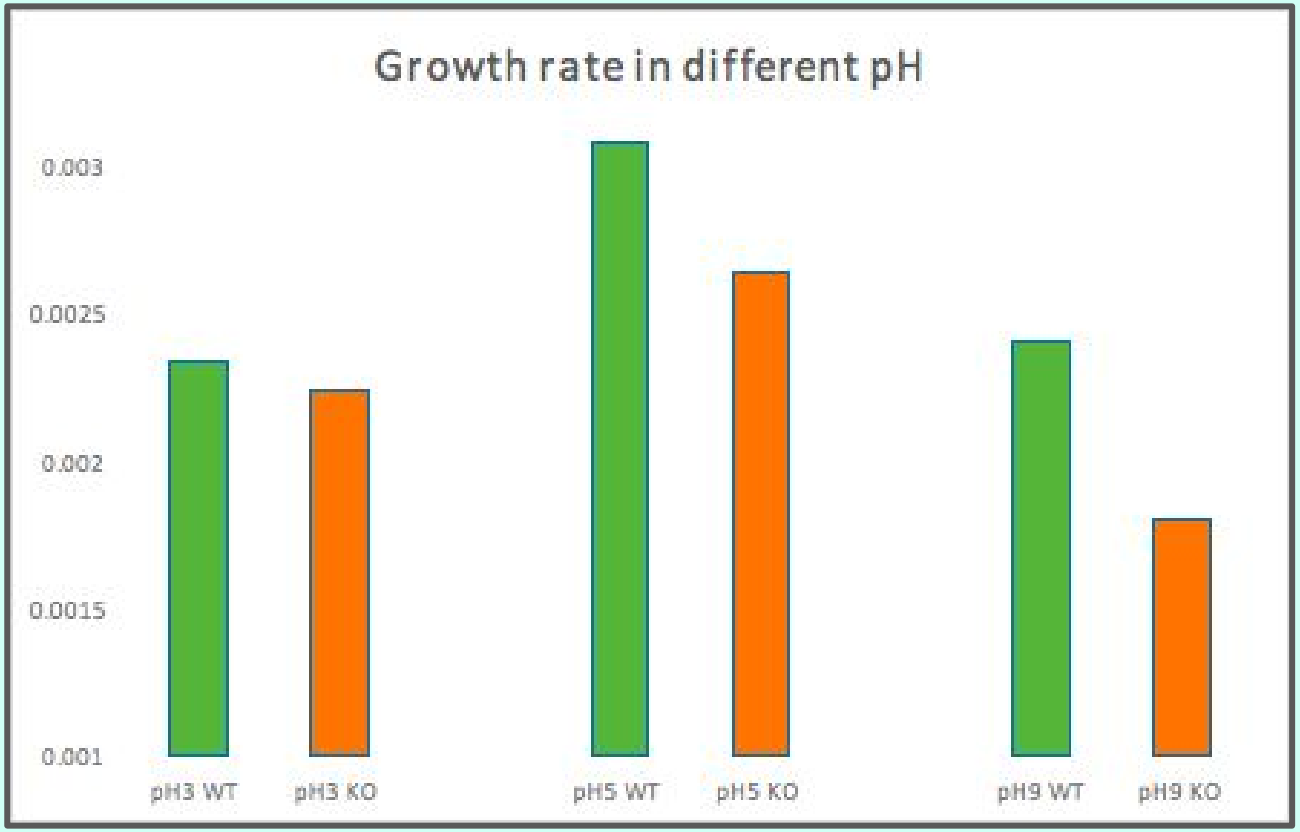


Temperature Data

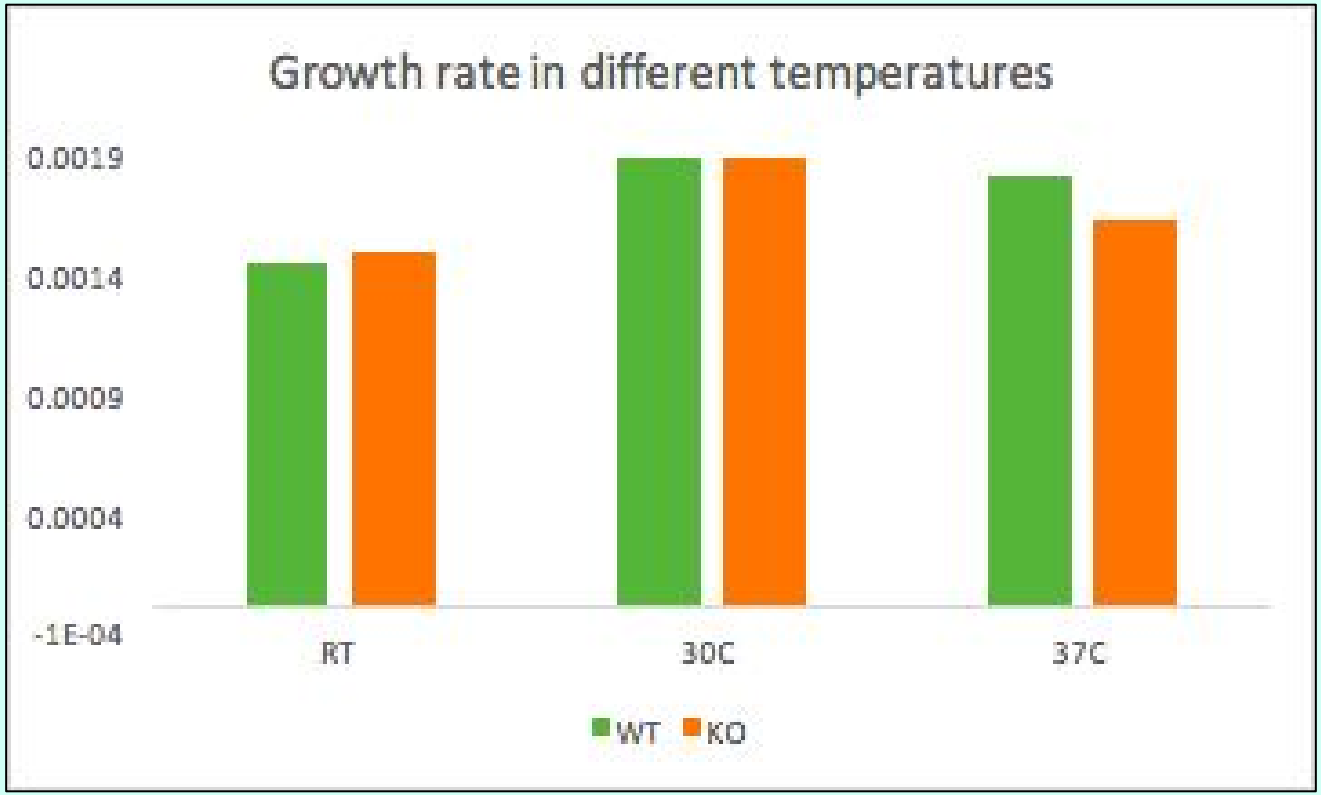


pH Data

	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH	pH
WT	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98
KO	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98	2.98
WT	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
KO	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
WT	8.99	8.99	8.99	8.99	8.99	8.99	8.99	8.99	8.99	8.99	8.99	8.99
KO	8.99	8.99	8.99	8.99	8.99	8.99	8.99	8.99	8.99	8.99	8.99	8.99
WT	1/ 4	1/ 16	1/ 64	1/ 256	1/ 1024							
KO	1/ 4	1/ 16	1/ 64	1/ 256	1/ 1024							½ WT ½ KO



P value	0.57876955	0.01005971	0.085577658



P value	0.77653824	1	0.01336183

Discussion

- pH
- Temperature
- Competition
- Plating
- Improvements