

A Working Tally: Research Goals and Progress

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Dimensions/CF Group
2012

Past Obsessions

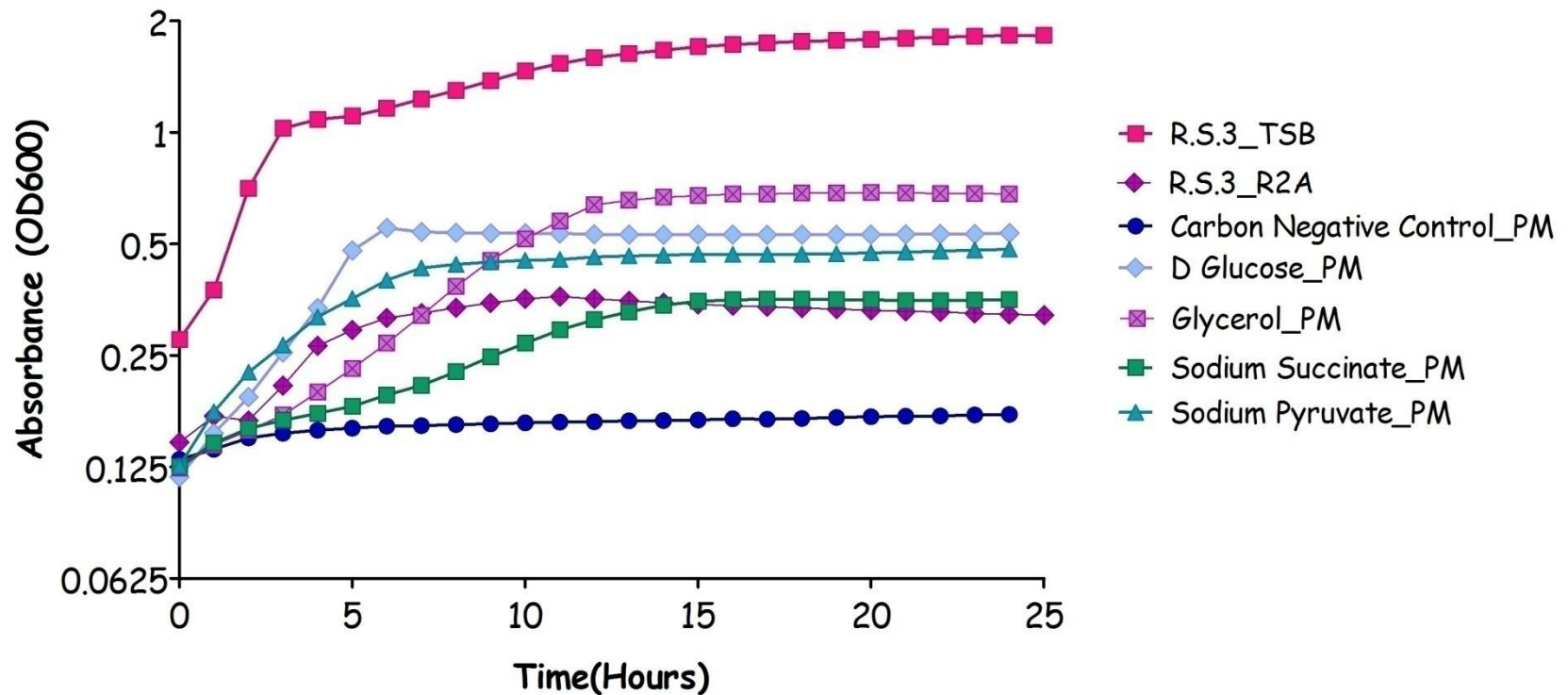
Goals	Accomplished?/Comments
Organizing/Maintaining Chemostats: <ul style="list-style-type: none"> i. Updating Weekly Data ii. Sending Samples to UC Davis iii. Organizing Cullen and Cat iv. Solving Contamination Issues 	All goals associated with Chemostats have been postponed until resolution with contamination issues are solved.
Branching Phenotypic Microarrays: <ul style="list-style-type: none"> i. Running broad spectrum of known bacterial species on the PMs. ii. Obtaining data for Dimensions Project 	In progress, few remaining species to test. Accomplished; Data follows
Master's Thesis/Preparation: <ul style="list-style-type: none"> i. CF related research ii. MS curriculum iii. Financial Support 	In progress, discussing projects with various individuals. Currently applying to scholarships

Current Obsessions

Goals	Accomplished?/Comments
Organizing/Maintaining Chemostats: <ul style="list-style-type: none"> i. Updating Weekly Data ii. Sending Samples to UC Davis iii. Organizing Cullen and Cat iv. Solving Contamination Issues 	Chemostats scheduled to resume on Wednesday, April 25 th .
Branching Phenotypic Microarrays: <ul style="list-style-type: none"> i. Running broad spectrum of known bacterial species on the PMs. ii. Obtaining data for Dimensions Project 	<p>Run remaining bacterial species on PM1 for R.Edwards</p> <p>Compile/upload PM data for 9 clones/week.</p>
Master's Thesis/Preparation: <ul style="list-style-type: none"> i. CF related research ii. MS curriculum iii. Financial Support 	Plan to speak to Forest about direction and focus of my MS work/education.

Versatility of Phenotypic Microarrays

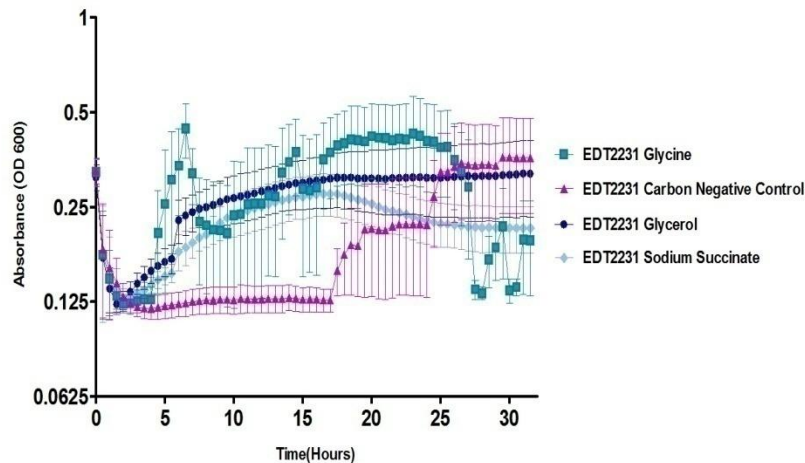
R.S.3: *Citrobacter sedlakii* Growth on Phenotypic Microarray



Evidence Supporting Progress of Phenotypic Microarrays

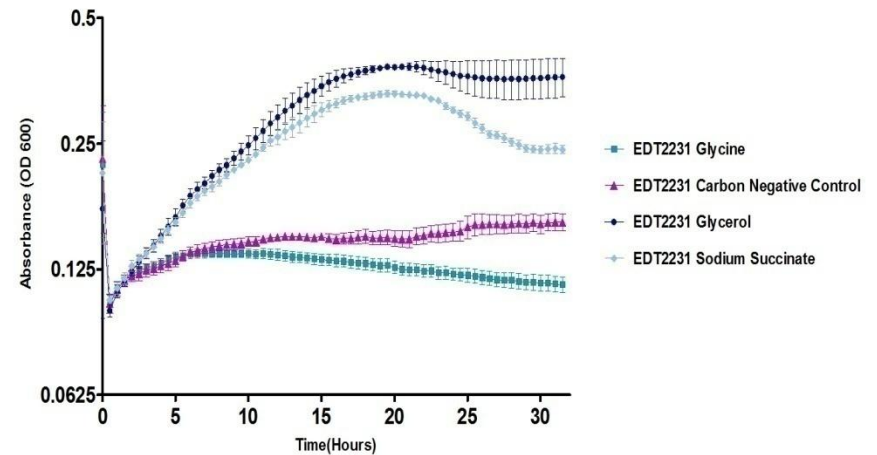
Past PM Methods/Materials

Empty Vector Growth On Carbon Substrates



Updated PM Methods/Materials

Empty Vector Growth On Carbon Substrates



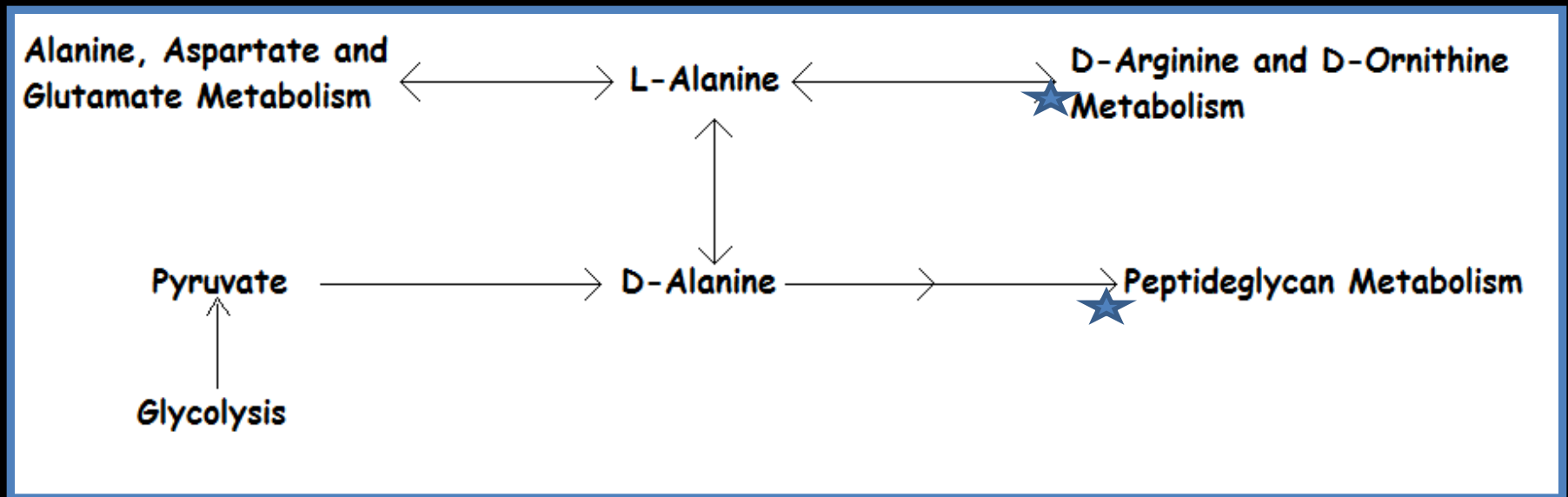
EDT 2235: Validation of Known Function Through Metabolomics

Ranked metabolic pathways:

Sugar metabolism, nucleotide metabolism, lipopolysaccharide modification, peptidoglycan production, polysaccharide production, deoxysugar production

Identified putative domains:

Nucleotide-sugar epimerase

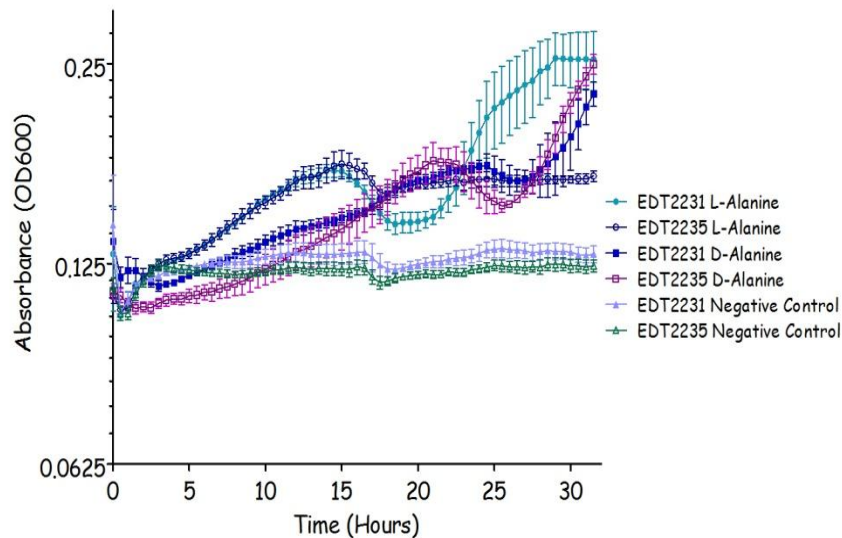


★ Pathways with observed up regulation based on metabolomic data.

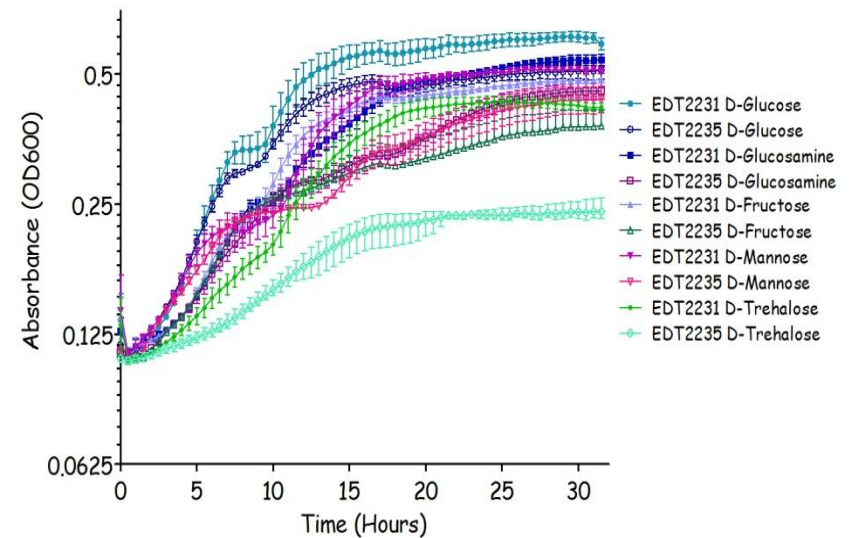
April 23, 2012

EDT2235: Attempt to Compare/Validate Known Function Through Phenotypic Microarrays

Growth on D/L Alanine



Growth on Various Sugars



PM Progress To Date: New Protocol

- Clones Ran:



- EDT 2231
- EDT 2239
- EDT 2240
- EDT 2241
- VCID 5944
- VCID 5945
- VCID 5946
- VCID 5947 ★
- VCID 5948 ★
- VCID 5949 ★

- Clones Uploaded:

- EDT 2231
- EDT 2239
- EDT 2240
- EDT 2241
- VCID 5944 ★
- VCID 5945 ★
- VCID 5946 ★

Remaining 20 ANN (-) Clones → 3 Weeks

Adapting PMs To Test Roseobacter

- Supplementing Media:
 - Increase [NaCl]
 - Salinity of Ocean = 3.2%  548mM
 - [NaCl] in Marine broth = 1.94%  332mM
 - Current [NaCl] = 5mM
 - Zobell as preliminary Carbon Source
 - Currently using 0.2% carbon