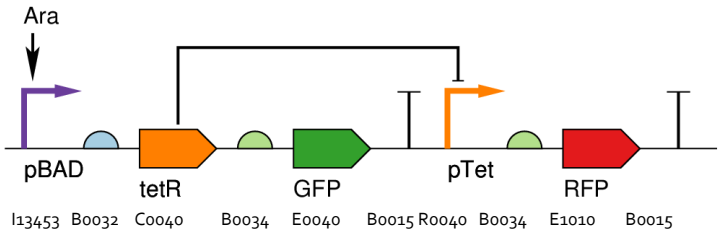
BBa_K783067

PART DESCRIPTION: Arabinose-TetR Inverter

This device is specified to act as a logical inverter as a function of [L-arabinose]. GFP expression should increase as L-arabinose concentration increases and RFP expression should decrease. Characterization finds behavior consistent with specification.



Contact Information

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Team: Boston U iGEM 2013
Data Collection: Evan Appleton, Monique Freitas
Affiliation: Boston University (Densmore Lab)
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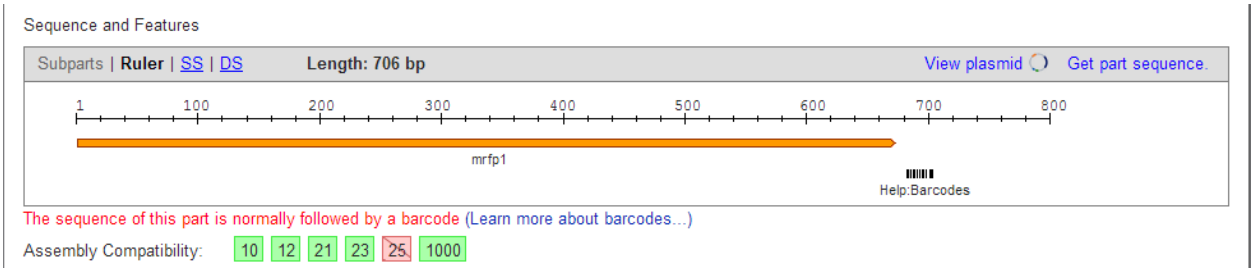
Related Parts: BBa_I13453, BBa_C0040, BBa_R0040
Date: 9/20/2012

Standard Design Information



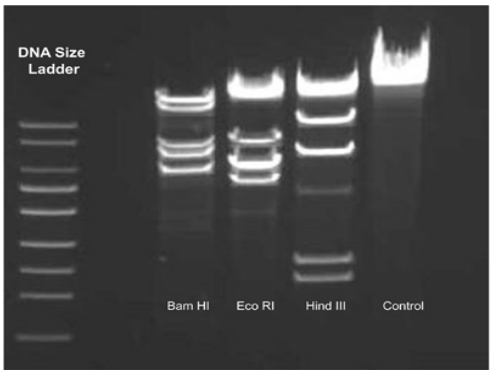
Chassis: E. coli
Device Name: BBa_K783067
Device Type: Inverter
Safety Level: Risk Group 1
Components: BBa_I13453-BBa_B0032-BBa_C0040-BBa_B0034-BBa_E0040-BBa_B0015-BBa_R0040-BBa_B0034-BBa_E1010-BBa_B0015
Strain: Bioline™ α-Gold
Assembly: BioBricks™
Protocol: BU BioBricks assembly protocol
Scars: Yes; 6bp scars between each part
Insertion: Plasmid
Vector: pSB1A3

Additional Comments: SI built device, EA and MF characterized device.

Restriction Digest and Gel Electrophoresis

BASIC INFORMATION

Purpose: Verify restriction mapping
Data Type: DNA size bands
Location: Boston University Center for Advanced Biotech
Data Format: Gel images link
Enzymes: XbaI, PstI
Ladder: NEB 2Kb ladder
Protocols: Knight Restriction Digest Protocol
Knight Agarose Gel Protocol

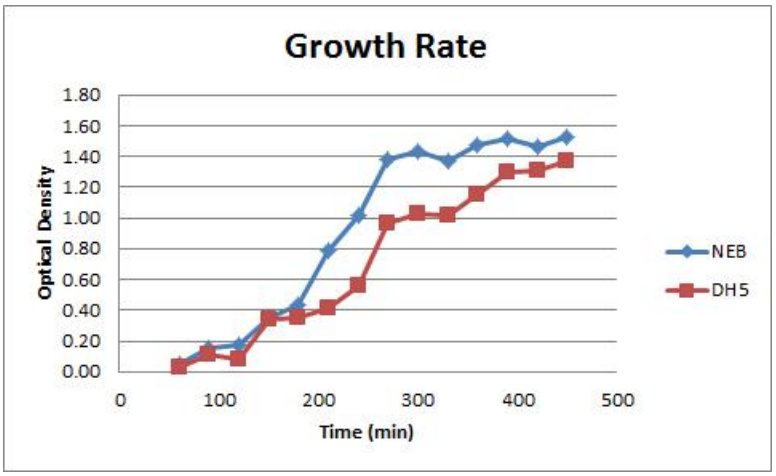


Additional Comments: 1% TAE gel; Sybr Safe dye used for staining

Growth Curve

BASIC INFORMATION

Purpose: To assess what effect, if any, our genetic parts have on the growth rate of E.coli.
Chassis: E.coli
Strain: Bioline α-Gold
Protocols: Purdue iGEM Growth Curve Protocol
Date: 7/9/13



GROWTH CONDITIONS

Media Type: Luria Broth (LB)
Vessel: 10mL Culture Tube
Volume: 5mL
Incubation: 37°C, 250 rpm

MEASUREMENT INFORMATION

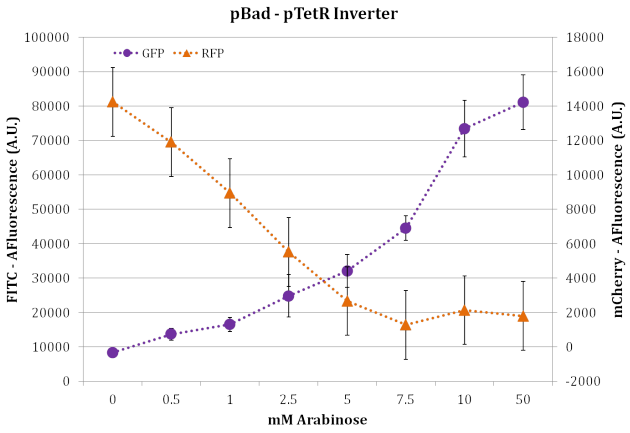
Data Type: Growth Curve (OD vs Time)
Location: Bindley Bioscience Center
Machine Name: N/A
Time Interval: 30 min
Total Time: 420 min

Additional Comments: This is where you would write additional comments about the part or its functionality.
Reference: This is where any references or acknowledgements you need to make will go.

Flow Cytometry

BASIC INFORMATION

Purpose: Measure fluorescence for induction curve data
Data-Type: Single-cell fluorescence
Location: Boston University Center for Advanced Biotech
Machine Name: SORP 4B-2YG-1BV, ACDU (FACSAriaII)
Data Format: FCS 3.0 data files link?
Protocol Details: (option to link to online protocol)
Lasers (Filters): 445nm, 40mW:(515/20nm);
488nm, 50mW: (488/10, 515/20, 545/35, 610/20, 710/50nm);
561nm, 40mW: (610/20, 660/20nm)



PRE-INDUCTION GROWTH CONDITIONS

Media Type: Luria Broth (LB)
Vessel: 5 mL tubes
Volume: 2 mL
Incubation: 37°C, 300 rpm
Time (min): 420

INDUCTION GROWTH CONDITIONS

Media Type: Luria Broth
Vessel: 500 µL tubes
Volume: 200 µL
Incubation: 37°C, 300 rpm
Time (min): 870

Future Work

As of 7/7/13, the following needs to be completed or added:

- Flow Cytometry
- Modeling Data and Information
- Promoter Strength
- Induction Curve
- Mass Spectrometry