

Names of each student: Xucheng Zhang

Date: 10/3/23

Protocol performed: Restriction digests, gel electrophoresis, and gel extraction

Restriction digest enzymes

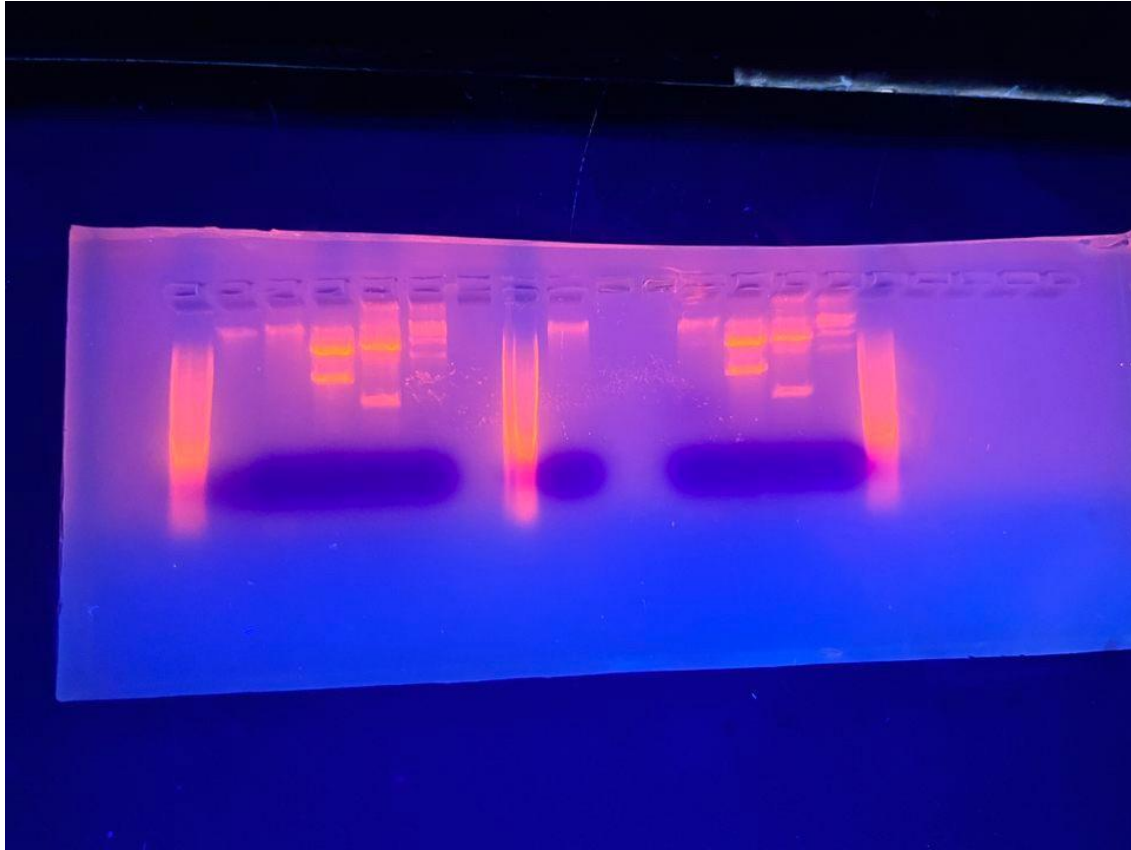
Gene	Enzymes
CaMV 35S (algae promoter)	SpeI & PstI
mCherry (reporter)	XbaI & PstI
phaA	XbaI & PstI
phaB	XbaI & PstI
phaC	XbaI & PstI

Gel extraction of each after gel electrophoresis should be done

Purpose: to prepare for the expression of a PHB construct

Supplies used/Material:

Results:



From left to right, the genes are in the following order starting at the 2nd well since the first well has the DNA ladder: CaMV 35S (promoter gene), mCherry (reporter gene),

Conclusion/Next lab goals:

Restriction digests of pHaA and pHAB were a success as seen in the gel electrophoresis results. However, restriction digests of the other genes will be redone.

Extra notes:

Names of each student:

Chloe Benjamin

Date: 10/3/23

Protocol performed: overnight culture to grow E.coli bacteria containing the genes, phAc and mcherry

Purpose: to prepare for a miniprep as well prepare for the expression of a PHB construct

Results:

Conclusion/Next lab goals:

- Restriction digests
- Gel extraction
- Ligation
- Miniprep to isolate the plasmid containing the genes mcherry and phAc

Names of each student:

Xucheng Zhang
Chloe Benjamin
Elizabeth Plumart

Date: 10/4/23

Protocol performed:

- Restriction digests and Gel extraction
- Ligation of phAa and phAb
- Miniprep to isolate plasmid containing the genes mcherry and phAc ~This will only be done if Eric cannot complete a gel extraction of mcherry and phAc due to DNA bands for both genes not being present on the gel.

Restriction enzymes

Gene	Enzymes
CaMV 35S (algae promoter)	SpeI & PstI
mCherry (reporter)	XbaI & PstI
phaA	XbaI & PstI
phaB	XbaI & PstI
phaC	XbaI & PstI

Ligate each CDS to 3'UTR.

Purpose: to prepare for the expression of a PHB construct

Results: mCherry, CA MV 35S, and terminator failed

Conclusion/Next lab goals:

Names of each student:

Elizabeth Plumart

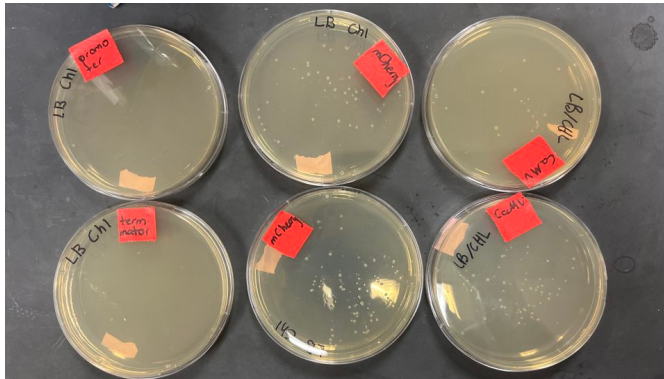
Subteam name: Algae PHB

Date: 10.07.23

Protocol performed:

- Transformation of mCherry, CA MV 35S, and terminator

Results:



Terminator failed (one colony that we can try), CA MV 35S and mCherry success

Names of each student: Elizabeth Plumart, Chloe Benjamin

Date: 10/09/23

Protocols Performed:

- Mini prep
- Restriction digest

Restriction digest enzymes

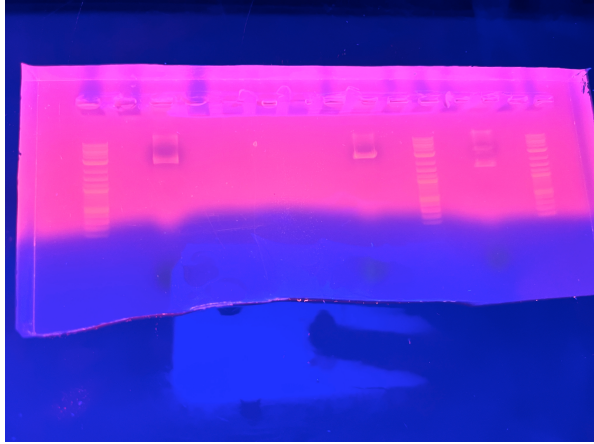
Gene	Enzymes
CaMV 35S (algae promoter)	SpeI & PstI
mCherry (reporter)	XbaI & PstI
Terminator	EcoRI & XbaI

Results:

Mini prep- Success

Plasmid/Gene, Colony	Concentration (ng/ul)	260/280
CAMV 35S, 1	142.3	1.95
CAMV 35S, 2	122.3	1.94
mCherry, 1	135.4	1.92
mCherry, 2	131.5	1.92
terminator	128.2	1.92

Restriction digest- Success



Names of each student: Xucheng Zhang, Chloe Benjamin

Date: 10/10/23

Protocols Performed: Gel extraction, ligation, transformation

Results:

Gel extraction- success

Ligation- success

Transformation- success