

GINKGO BACTERIAL ARTIFICIAL CHROMOSOME (BAC) LIBRARY

Presented by
Quiana Hunter
Erica McInnis
Avis Simms

Ginkgo Scientific Classification

Kingdom: Plantae
 Division: Ginkgophyta
 Class: Ginkgoopsida
 Order: Ginkgoales
 Family: Ginkgoaceae
 Genus: Ginkgo

Ginkgo History

- Ginkgo has long been cultivated in China; some planted trees at temples are believed to be over 1,500 years old.
- The first record of Europeans encountering it is in 1690 in Japanese temple gardens, where the tree was seen by the German botanist Engelbert Kaempfer.

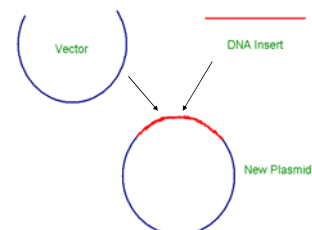
Interesting Facts

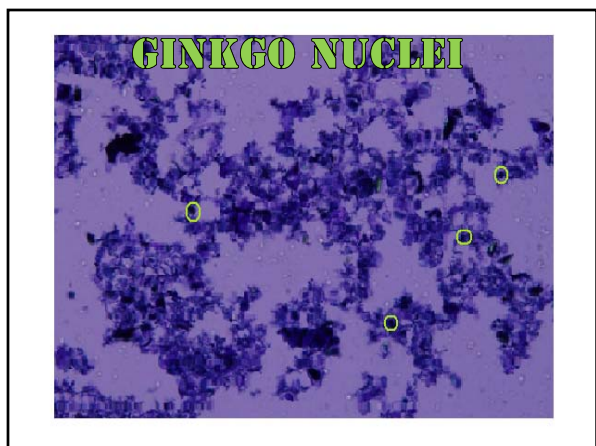
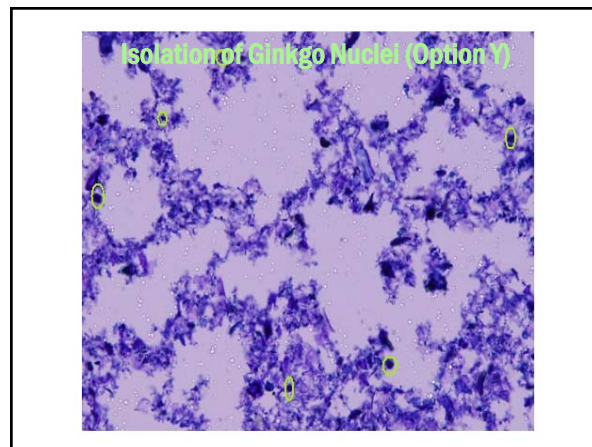
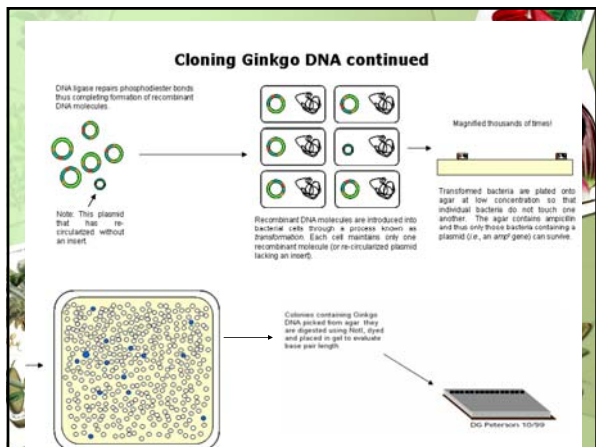
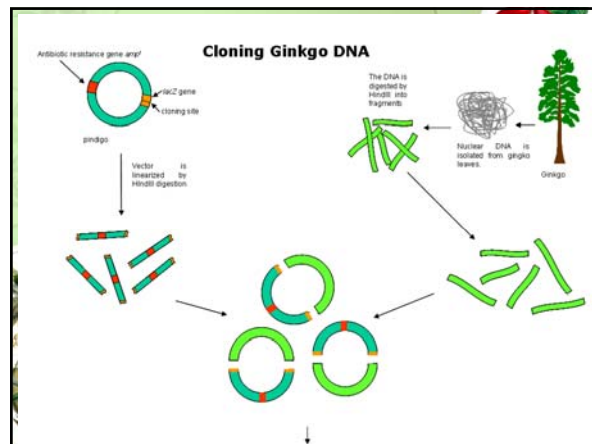
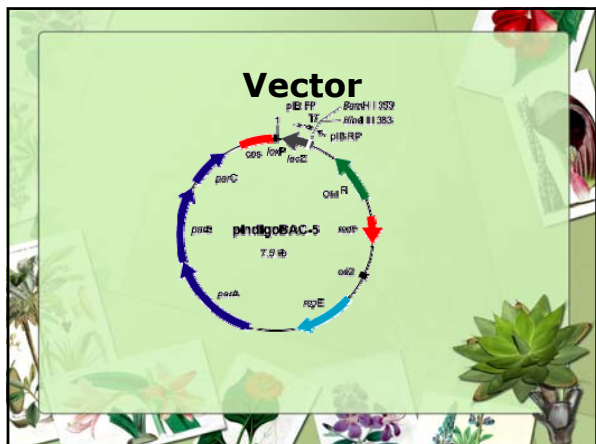
- The Ginkgo has the intriguing distinction of being one of the world's most urban-tolerant trees, often growing where other trees cannot survive.
- Ginkgos rarely suffer disease problems, even in urban conditions, and are attacked by few insects. For this reason, and for their general beauty, ginkgos are excellent urban and shade trees, and are widely planted along many streets.
- The ginkgo is the official tree of the city of Kumamoto, and two leaves form the symbol of the University of Tokyo, the main campus of which is famous for its numerous ginkgos.

Goals for Ginkgo

- Isolate Nuclei
- Test Restriction Enzyme
- Identify best concentration of HindIII for Restriction Enzyme Digestion
- Size selection
- Extract Plasmids
- Evaluate Insert Size

BAC Library



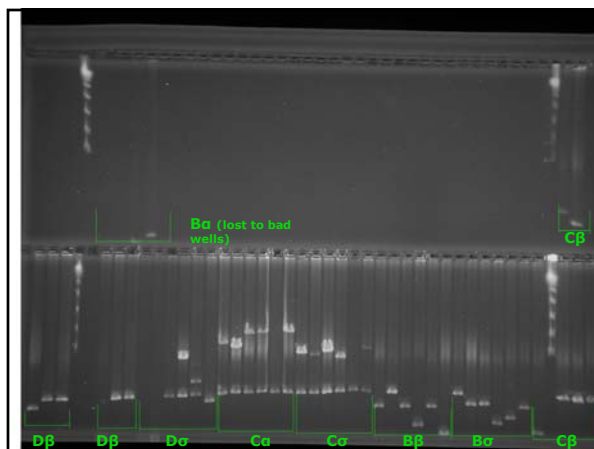
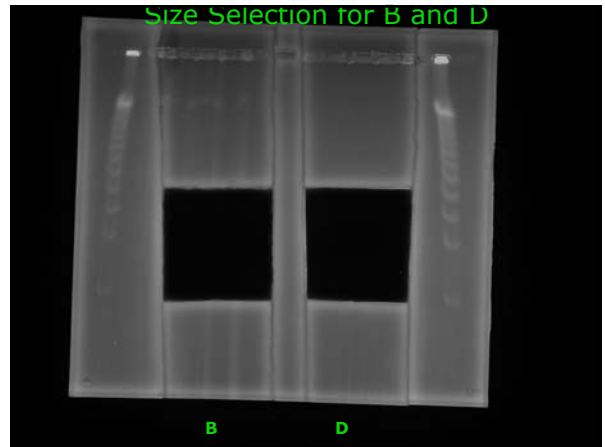
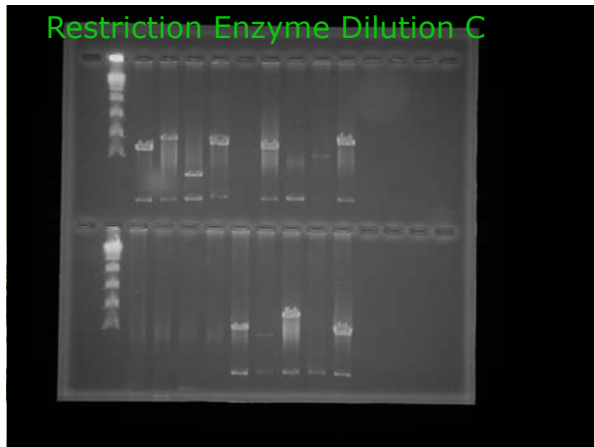
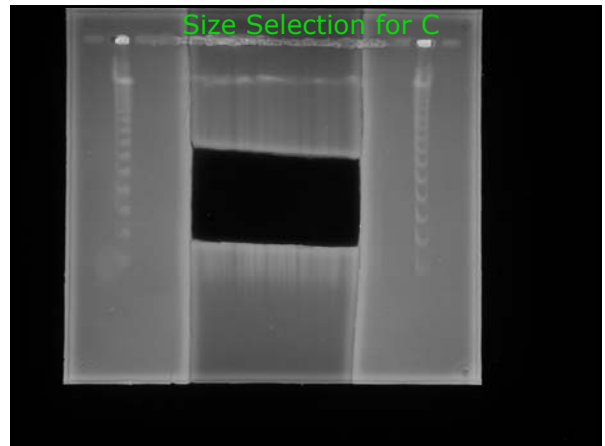
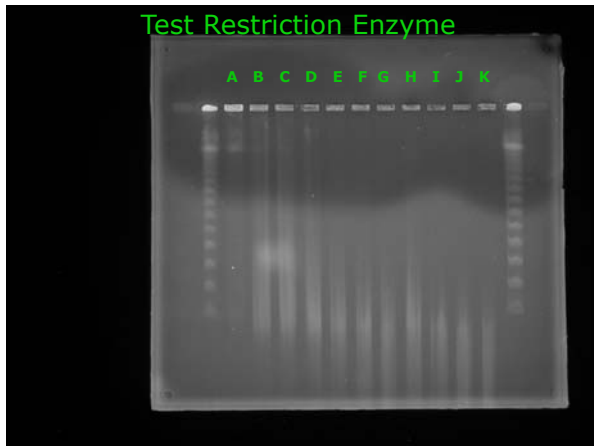


Restriction Enzyme

REVISED TABLE 9.1 - HindIII digests

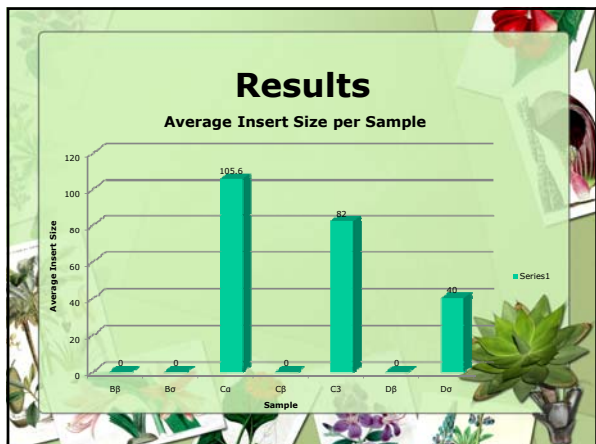
Tube label	Microliters of enzyme solution added to tube	HindIII quantity in tube (units)	Final HindIII concentration in tube (units/ml)*
a	0	0	0
b	1 µl of Dilution 2	0.2	0.8
c	2.5 µl of Dilution 2	0.5	2.0
d	5.0 µl of Dilution 2	1.0	4.0
e	7.5 µl of Dilution 2	1.5	6.0
f	1.0 µl of Dilution 1	2.0	8.0
g	1.5 µl of Dilution 1	3.0	12.0
h	2.0 µl of Dilution 1	4.0	16.0
i	2.5 µl of Dilution 1	5.0	20.0
j	5.0 µl of Dilution 1	10.0	40.0
k	2.5 µl of undiluted HindIII	50.0	80.0

*Based on a total solution volume of 250 µl per tube.



Colonies per Unit

Sample	Colonies per Unit (CPU)
B α	3.88
B β	3.00
B σ	3.25
C α	6.46
C β	4.22
C σ	3.94
D β	6.02
D σ	6.18



Conclusion

- Option Y worked well for extracting Ginkgo nuclei
- Ratio of CPU for white to blue were higher in sample C than in B or D
- The Restriction enzyme concentration C gave better size selection than B or D

Conclusion

- The methods and solution concentrations that were identified as giving the best results if used would allow for optimal conditions in creating a Ginkgo BAC library


What We learned

- * Chef Gels
- * Elution



What we learned cont.

- Operation of Robot
- Transformation



What we learned cont.

- Climbing Trees

