

AP Biology Pre-lab 6A: pGLO Bacterial Transformation

1. What is bacterial transformation?
2. Explain the genetics of bacteria (its genome and plasmid)
3. What benefits are plasmids to prokaryotes? How are plasmids transferred from one bacterium to another?
4. Explain how recombinant pGLO plasmid DNA is created from jellyfish DNA and bacterial plasmid.
5. How will the pGLO plasmid be introduced into the *E.coli* bacterium?
6. If we were to put a black light up against the recombinant DNA, will we expect to see the DNA glow? Why or why not?
7. What is the purpose for putting arabinose sugar into the agar plate?

8. How will we identify which bacterial colonies have taken up the recombinant plasmid DNA?

9. You have four plates. Two plates have bacteria that were not introduced to the plasmid (- pGLO) and two plates are inoculated with bacteria that have been introduced to the plasmid (+pGLO). Make predictions of whether the plates will grow bacteria and if the bacteria will glow. Explain your predictions!

-pGLO bacteria on plate with ampicillin and no arabinose:

-pGLO bacteria on plate without ampicillin or arabinose:

+ pGLO bacteria on a plate without arabinose but with ampicillin:

+ pGLO bacteria on a plate with arabinose and with ampicillin: