Survival test with competition

This experiment will test to see if our modified organisms will survive in different conditions. One part is to see if our bacteria holding the plasmid with the gene will be outcompeted by a natural bacteria, and one test is to see if the bacteria will simply lose the plasmid with time. We will compare these two results to see if our bacteria containing our plasmids will actually survive in a environment without selective pressure for the plasmid with the gene of interest.

In theory, bacteria expressing a gene that takes extra energy to express should not survive in a normal ecosystem.

1. *Grow overnight culture, 1 ml of natural and modified bacteria in LB with the modified and natural bacteria separated from eachother. Use antibiotics for the corresponding backbones. (No antibiotic in the one without resistance).

2. *The next day, take 500 µl of the separated cultures and mix together by vortexing in a falcon tube. Take 1 µl of this and grow in new 1 ml lb medium overnight again. Dont use antibiotics this time!

3. Day two, plate by diluting the cultures 1 million time. (100X, 100X, 100X) and also dilute 100 000 (100 X, 100X, 10X). Mark these mixed day one. Plate on both resistance plates and non resistance plates.
Continue and take 1 µl of the overnight and grow again in 1 ml lb media. Dont use antibiotics