**Example Calculations**

**Example of Enumeration Calculation**

* 10-1 plate: Too numerous to count (TNTC)
* 10-2 plate: TNTC
* 10-3 plate: 288 colonies
* 10-4 plate: 4.1 colonies

Use the lowest dilution that has between 20-300 colonies for enumeration calculation. In this case the 41 colonies on the 10-4 plate. Since 100 μl was plated of the 10-4 dilution, the concentration is actually 10-5 yielding 4.1 x 106 CFUs per milliliter (CFU/ml) in the sample. Since 25 μl of this solution was administered to mice the inoculum dose is: (4.1 x 106 CFU/ml) x 0.025 ml = 1.03 x 105 CFU or approximately 105 spores administered per mouse.

**Example of 1:10 dilution Calculation**

Final Tube Weight: 1.0136 g 29.5 mg X 10 = 295 μl

- Tube Weight: 0.9841 g 295 μl – 29.5 mg = 265.5 μl 1X PBS

 Contents: 0.0295 g

Convert grams into milligrams: 0.0295 g x 1000 mg/g = 29.5 mg

To make a 1:10 dilution of 29.5 mg content multiple by 10 yielding 295 μl. Then subtract the total volume 295 μl from 29.5 mg content yielding 265.5 μl. The 265.5 μl is the amount of 1X PBS that will be added to your 29.5 mg of content within the eppendorf tube.