## **Protein Extraction from Bacteria**

- 1. Take the bacterial broth from incubator and centrifuge it at 4000 Xg for 15 minutes.
- 2. Discard the supernatant, and wash the residue with 40 ml PBS, vortex it, and centrifuge it at 4000 Xg for 15 minutes. (Repeat this process 3× in total)
- 3. Discard the supernatant and add 10 ml of PBS and vortex it.
- 4. Take total 10, 1 ml tubes and add little amount of tiny glass beads.
- 5. Aliquot the 10 ml solution in **STEP 3**, into 1 ml tubes containing glass beads.
- 6. Homogenize the 1 ml tubes for 3 minutes at max speed.
- 7. Freeze the tubes at -20°C for at least 3 hours.
- 8. Thaw the tubes in ice for 1 hour.
- 9. Repeat **STEP 6,7,8,** in order, for **6×** in total for **C. perfringens**.
- 10.Repeat **STEP 6,7,8,** in order, for **3×** in total for **C. jejuni**.