Protocol for chemical inducible expression of GFP

Materials:

- 4 groups of induce solution with a concentration gradient of 10^-7, 10^-5, 10^-3, 10^-2;
- Overnight bacterial culture or bacterial colonies;
- Phosphate Buffered Solution (PBS).

Procedure:

1. Add 20 μl of the overnight bacterial culture or pick a colony to 5ml of LB antibiotic medium, Incubate at 37 degree in a shaker till the OD600 value reaches 0.4-0.6.
2. Add 0.5 mL of the fresh bacterial culture and appropriate volume of inducer solution to prepare induction system with the concentration gradient of 10^-9, 10^-8, 10^-7, 10^-6, 10^-5, 10^-4, 10^-3, 10^-2.
3. Place the induction system at 37 degree for 2 hours.
4. Pellet bacterial cells by 4 min centrifugation at 4000 rpm, discard the supernatant.
5. Resuspend the pelleted cells in 500 μl of PBS.
6. Transfer 100 uL of bacterial resuspention into each well of 96-well plate to test the expression of GFP by flow cytometry or Microplate Reader.

Note:

If desired, time sequential expression of GFP can also be tested, through verifying the incubating time of induction system at 37 degree.