Large 2 ml vials with triple depth external threaded cap which reduces the possibility of contamination. Wider tube diameter provides more room for mixing to ensure beads are properly coated.

Larger writing area allows for complete coding and reference data.

Industry-standard robust cryovial can withstand snap freezing with liquid nitrogen.

Available in five colours to provide laboratories with a system to colour-code different bacterial species.

Specially formulated preservative ensures longer survival of fastidious bacteria and higher quantitative recoveries.

Chemically treated beads improve bacterial adhesion.

Microbank™ Preservation & Retrieval Procedure

① Inoculate the cryopreservative with colonial growth (18-24 hrs) from pure culture.

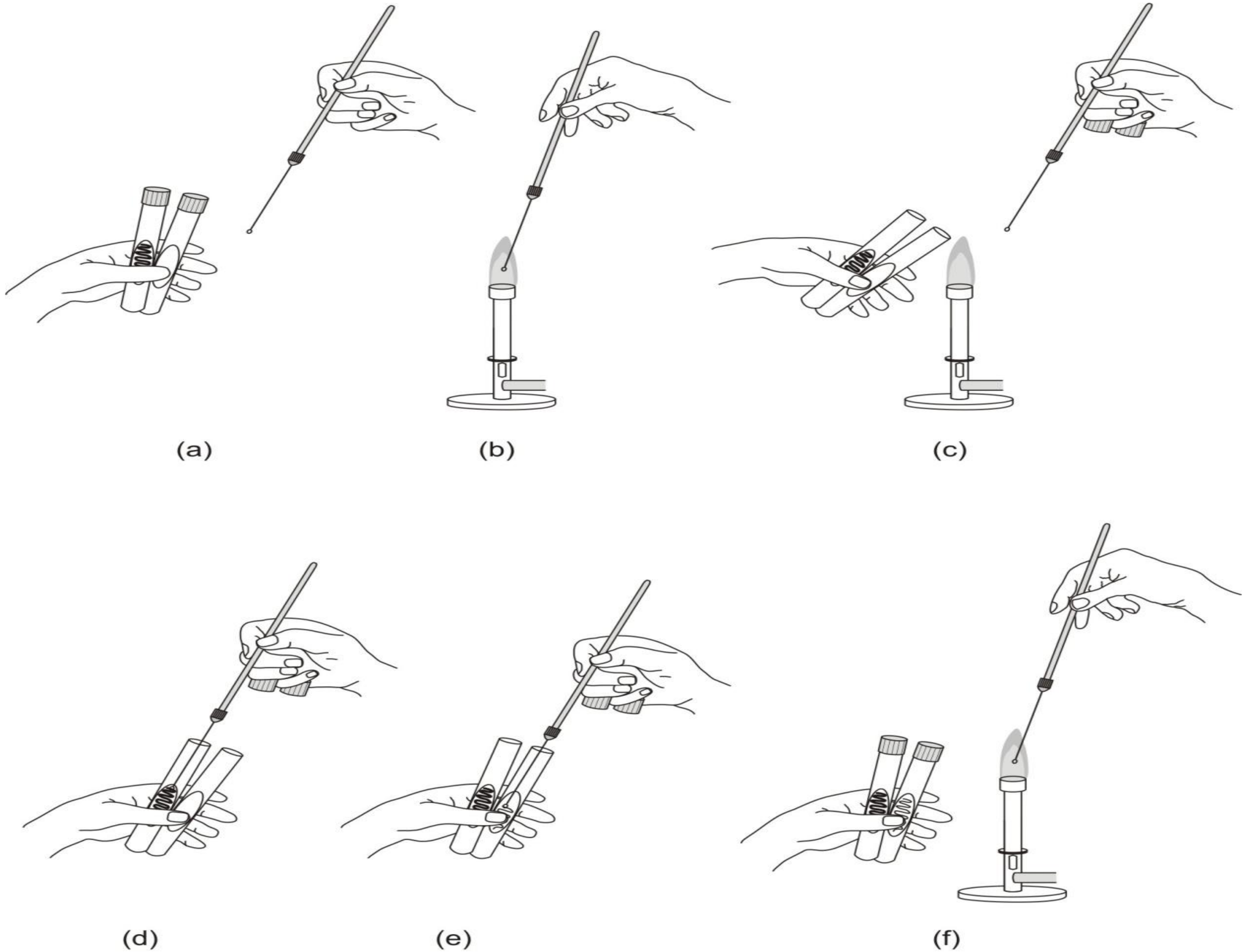
② Close vial tightly and invert 4-5 times to emulsify organism. Do not vortex.

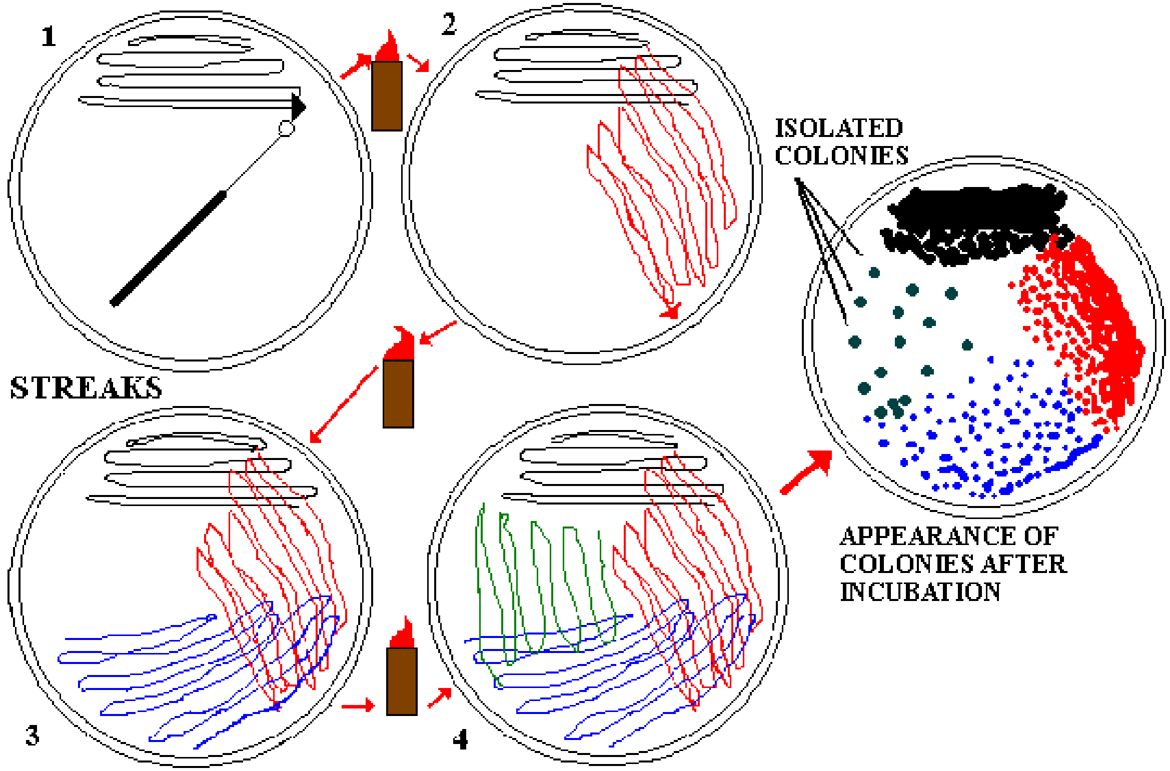
③ Aspirate excess cryopreservative using a sterile pipette.

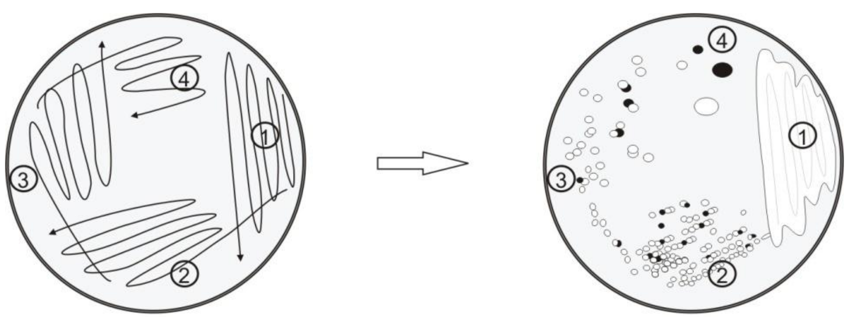
④ Store inoculated cryovial in appropriate freezer or liquid nitrogen.

⑤ Recover inoculated beads under aseptic conditions using a sterile needle or forceps.

⑥ Beads may then be used to inoculate appropriate solid or liquid media.


(a)
(b)
(c)
(d)
(e)
(f)


1
2
ISOLATED COLONIES
STREAKS
3
4
APPEARANCE OF COLONIES AFTER INCUBATION


4
1
3
2
4
1
3
2

(a)

(b)

Corynebacterium glutamicum
Escherichia coli

- Units
  - Molar concentration (M, mM, μM, etc), %, g, liter
  - ㎎, ㎍, ml, μl, ℃, rpm

- LB broth

- **LB broth 만들기**

LB는 Luria-Bertani의 준말

E.coli를 키울때 사용하는 배지

준비물

증류수(distilled water), tryptone, NaCl, yeast extract

기본적으로 1L를 기준으로

NaCl - 10 g
tryptone – 10 g
yeast extract – 5 g

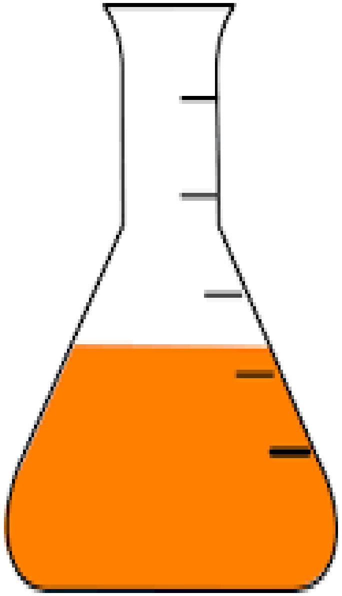
200ml만 만든다면?
NaCl – 2 g
tryptone – 2 g
yeast extract – 1 g

이 비율만 기억하고 있으면 쉽게 만들 수 있다.

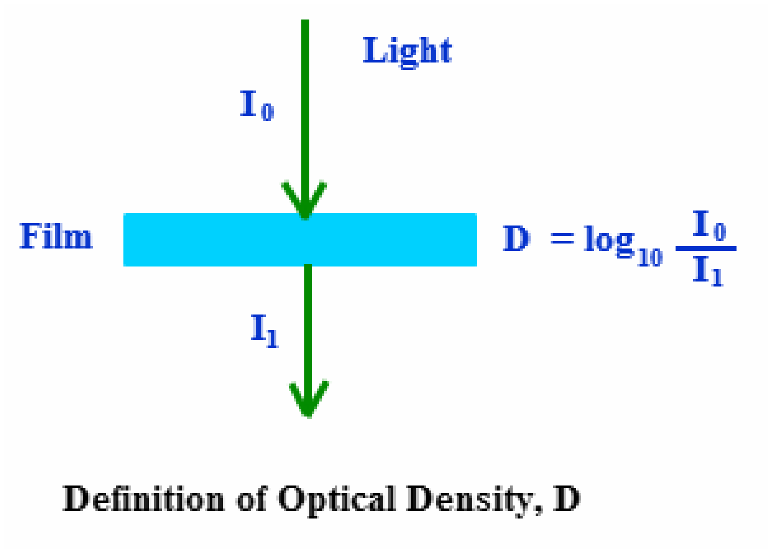
1L 제작

1. 비커에 magnetic bar를 넣고 stirrer에 올린다.
2. 증류수를 900ml넣어준다.
3. NaCl - 10g, tryptone - 10g, yeast extract 5g을 넣고 잘 섞는다. (Agar 2%)
4. 가루가 안보이고 노랗게 변하면 완성! 한 시간 정도 섞은 뒤, 증류수를 추가로 넣어 1L를 맞춘다.
5. 1L bottle에 옮긴 뒤 Autoclave 돌려준다.
6. 식힌 뒤 필요에 따라 ampicillin이나 kanamycin 등의 항생제를 넣어준다.
   (ampicillin 은 50mg/ml로 분주, LB 1000ml의 경우 1000ul넣어준다. kanamycin 은 10mg/ml로 분주, LB 1000ml의 경우 5000ul넣어준다. 결국 전체농도가 50ug/ml가 된다.)

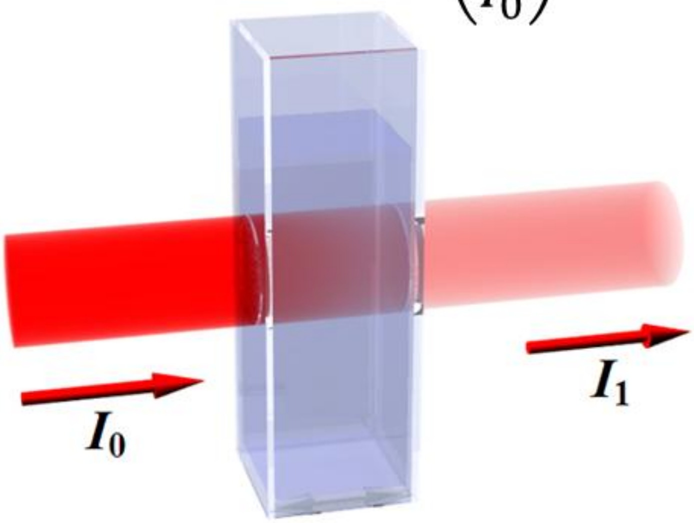
Culture



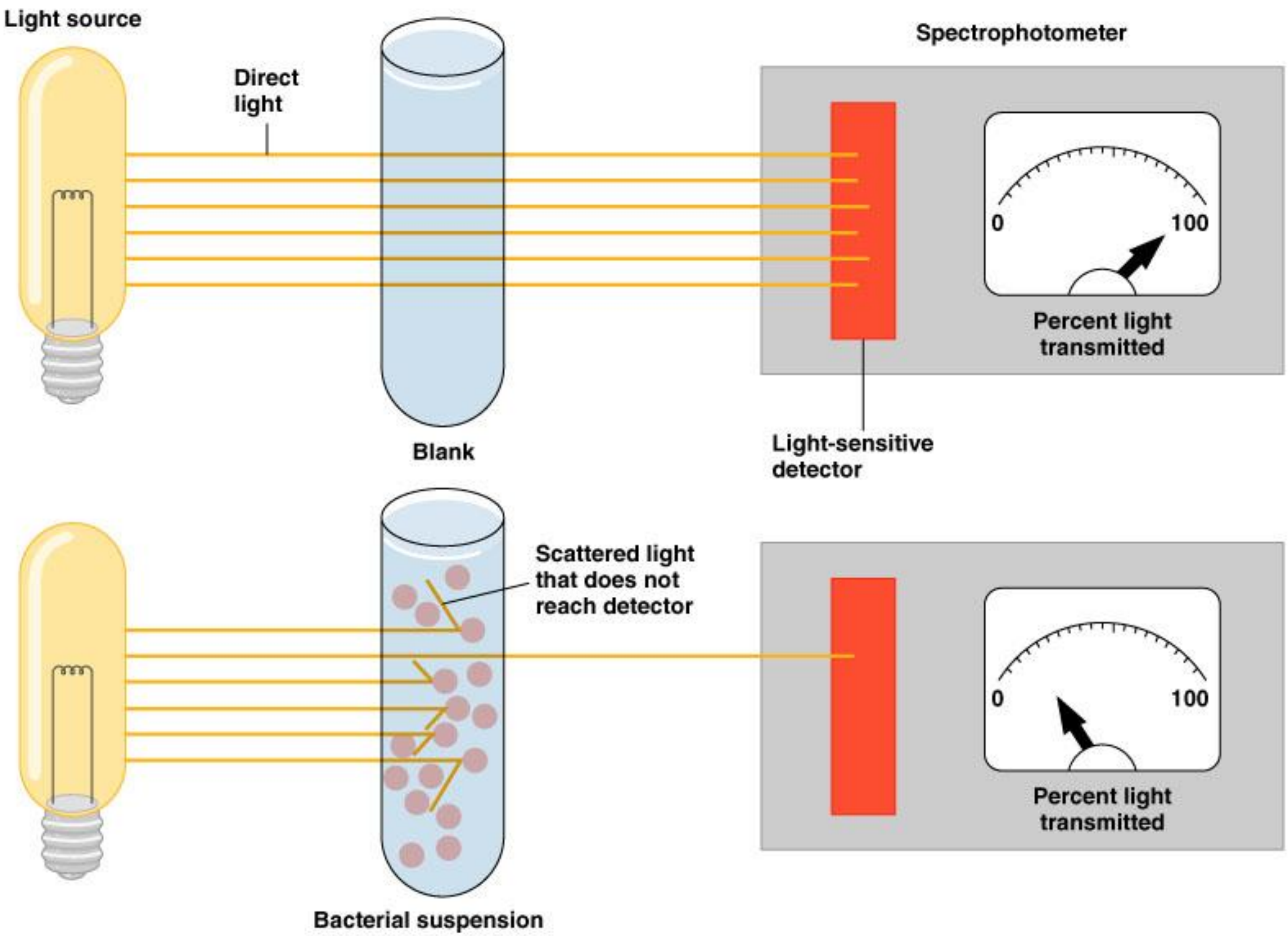
Optical density



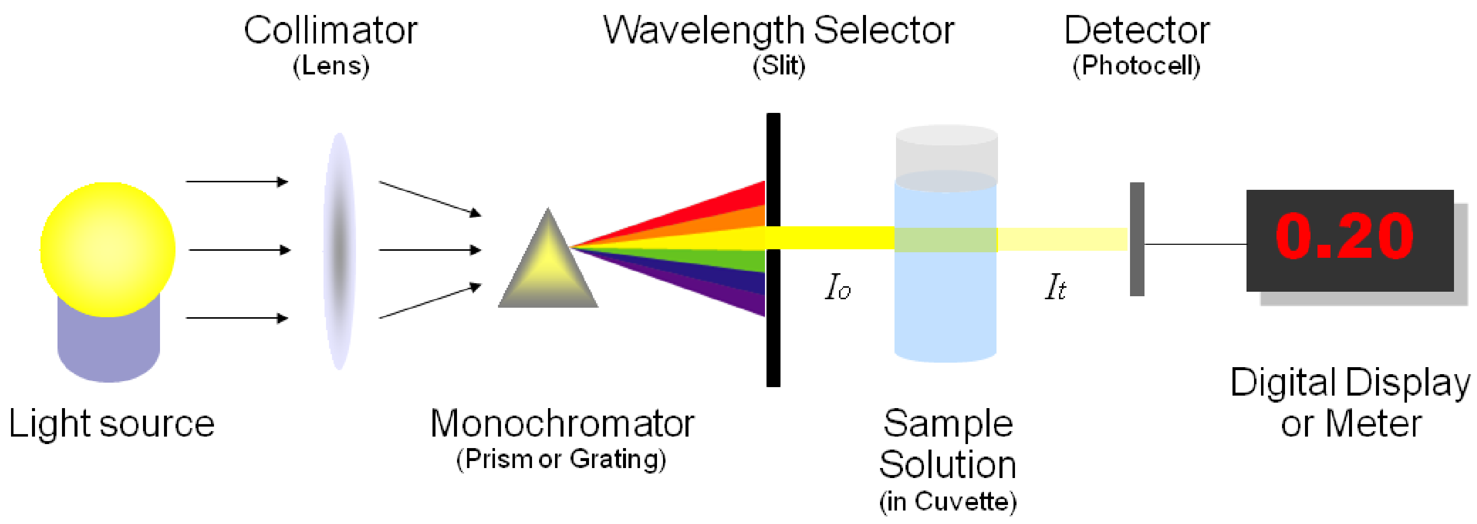
$$OD = -log_{10}\left(\frac{I_1}{I_0}\right)$$



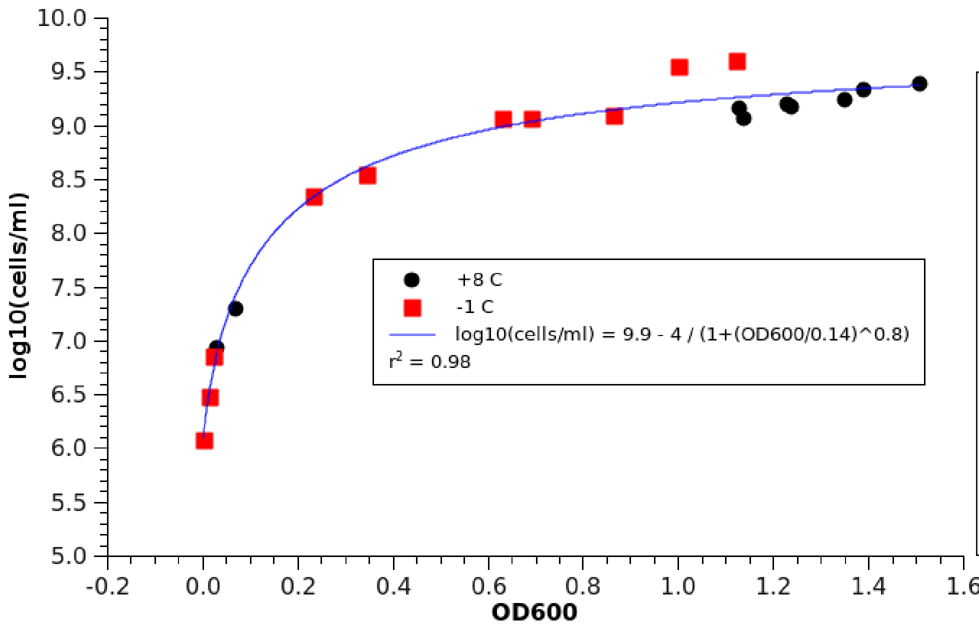
Spectrophotometer

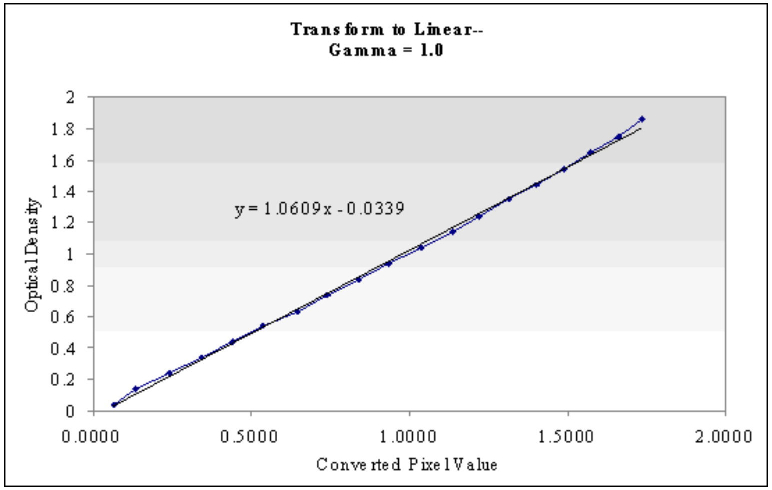


Optical density

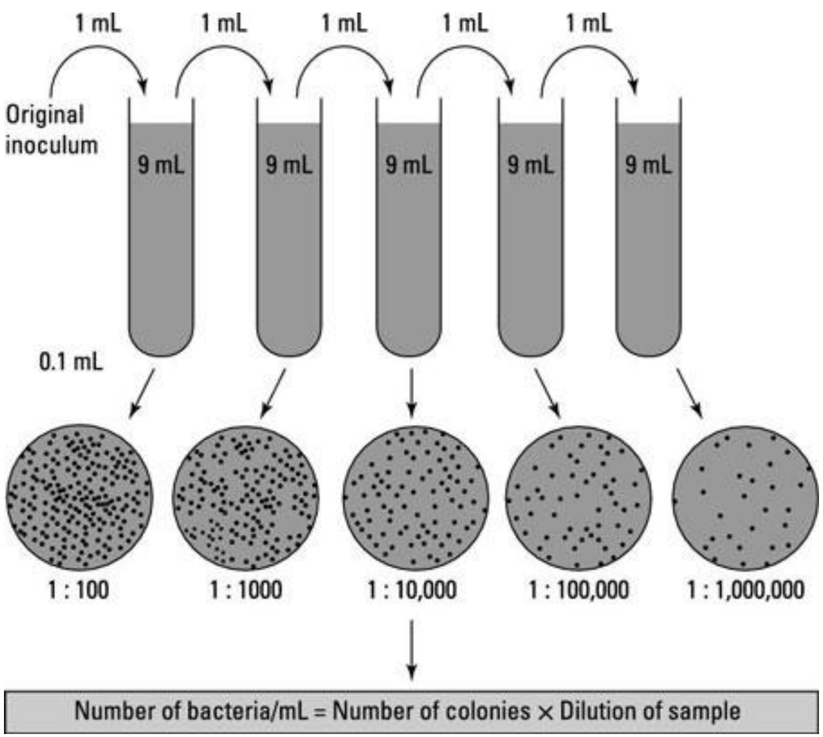


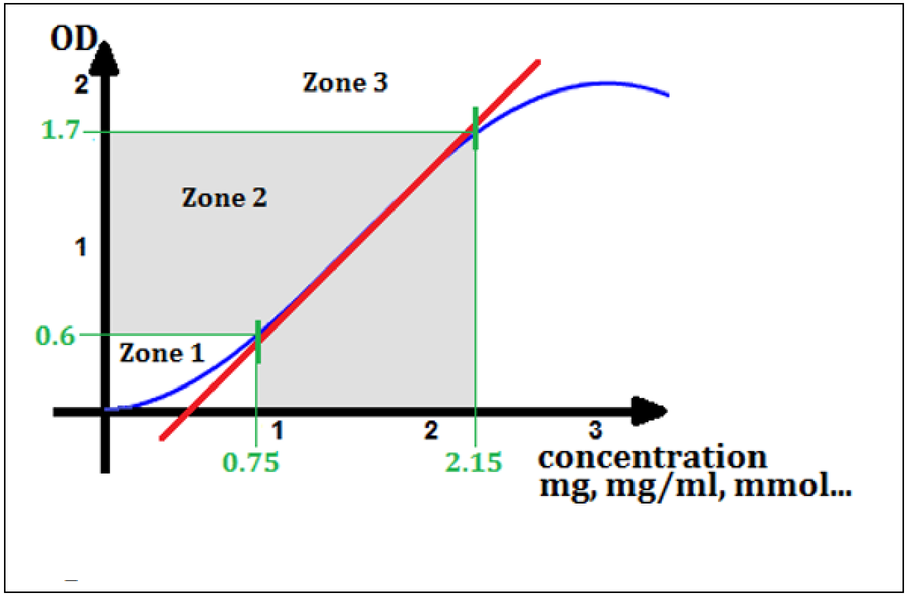
Optical density equation



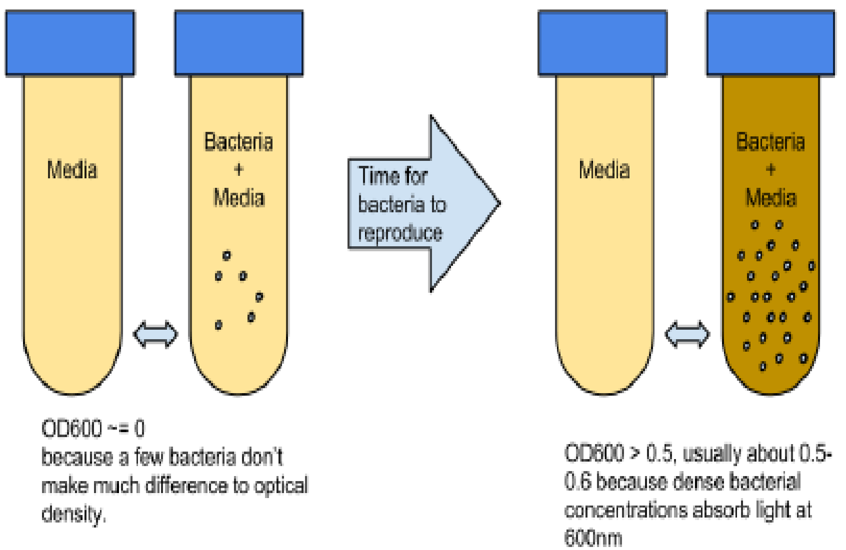


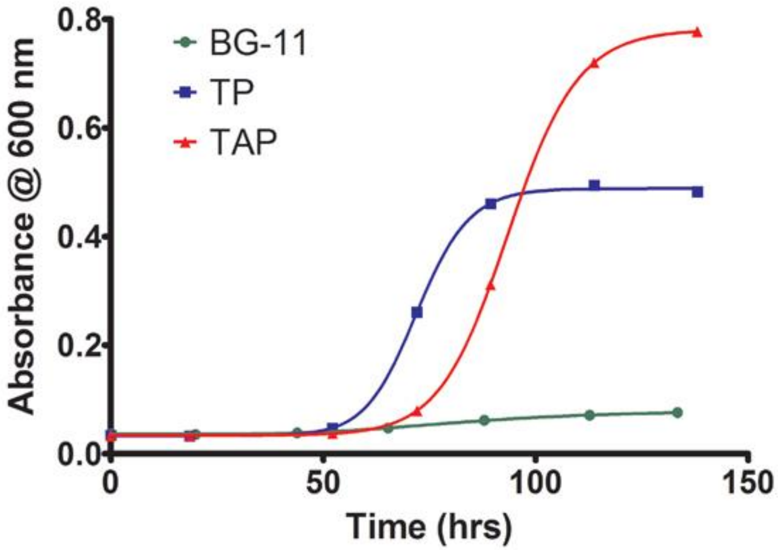
Serial dilution





Cell growth


Media
Bacteria
+
Media
Time for
bacteria to
reproduce
Media
Bacteria
+
Media
OD600 ~= 0
because a few bacteria don't
make much difference to optical
density.
OD600 > 0.5, usually about 0.5-
0.6 because dense bacterial
concentrations absorb light at
600nm


Absorbance @ 600 nm
0.8
0.6
0.4
0.2
0.0
0
50
100
150
Time (hrs)
BG-11
TP
TAP