

iGEM2013 – Microbiology – BMB – SDU	
Title: Growth experiment	Date issued: 2013.08.01
SOP number: SOP0024	Review date:
Version number: 01	Written by: MHK

1. Purpose

To test the growth rates of bacteria.

2. Area of application

All *E. Coli* cells.

3. Apparatus and equipment

Apparatus/equipment	Location (Room number)	Check points	Criteria for approval/rejection
Erlenmeyer flasks			
Incubation tubes			
Pipette aid			
Pipettes			
Spectrophotometer			

4. Materials and reagents – their shelf life and risk labelling

Name	Components	Supplier / Cat. #	Room (hallway storage)	Safety considerations
Purple pipette tips				
Green pipette tips				
LB				

Cuvettes				

5. QC – Quality Control

6. List of other SOPs relevant to this SOP

7. Environmental conditions required

8. Procedure

1. Prepare ON-cultures.
2. Measure OD₆₀₀ for ONCs.
3. Transfer an amount of ONC to 25 ml LB to obtain an OD₆₀₀ of 0,05. Use the formula: $V_{\text{ONC}} = V_{\text{LB}} * 0,05 / \text{OD}_{600 \text{ of ONC}}$. Make three samples of each ONC.
4. Place the samples in 37 C heating cabinet with gentle mixing (180 rpm).
5. Measure OD₆₀₀ every 30 minutes.
6. Measure the average and standard deviations on the triplets for each sample.
7. Plot Log(absorbance) vs. time.

9. Waste handling

Chemical name	Concentration	Type of waste (C, Z...)	Remarks

10. Time consumption

- Total-time 8 hours.
- Hands-on-time 30 min.

11. Scheme of development

Date / Initials	Version No.	Description of changes
13.08.02 / MHK	01	The SOP has been written

12. Appendices