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| iGEM2013 – Microbiology – BMB – SDU | |
| Title: Primer design SOP number: SOP0004_v01 Version number: 01 | Date issued: 2012.06.13 Review date: Written by: Sofie Fredberg og Heidi Wille |

1. Purpose

To design primers

2. Area of application

Designing primers

3. Apparatus and equipment

OligoCalc: <http://www.basic.northwestern.edu/biotools/OligoCalc.html>

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

None

5. QC – Quality Control

Check of primers, by people not involved in the making of the primers.

6. List of other SOPs relevant to this SOP

SOP005 – Urasil primers

7. Environmental conditions required

None

8. Procedure

1. Get sequence of target gene
2. Find approximately 20 nucleotides that are complimentary to the sequence, forward and revers.
3. Go to OligoCalc and find T_m values approximately 55-60°C, if it is too low add more nucleotides
4. Check C/G% and self-complementarity, to avoid secondary structures.
5. Depending on the use of the primer a tail can be added, this can be the standard iGEM prefix and suffix or others
6. If the primer is for mutagenesis one of the complimentary nucleotides of the primer can be traded with the wanted nucleotide for the change.
7. Get a team mate to check for errors

9. Waste handling

10. Time consumption

Approximately 10 min.

11. Scheme of development

| Date / Initials | Version No. | Description of changes |
|--------------------|-------------|---------------------------|
| 13.06.13 / SF & HW | 01 | The SOP has been written |
| 13.01.02 / MM & TK | 01 | The SOP has been approved |
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12. **Appensdixes**