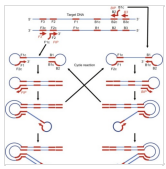

Oct 13, 2020

Protocol 2: LAMP

Forked from Protocol 2: LAMP

1

[1]UCSC

1 *Works for me* This protocol is published without a DOI.

UCSC BME 22L

PROTOCOL CITATION

2020. Protocol 2: LAMP. **protocols.io**
https://protocols.io/view/protocol-2-lamp-bnc7mazn

FORK FROM

Forked from Protocol 2: LAMP, Alyssa Ayala

CREATED

Oct 13, 2020

LAST MODIFIED

Oct 13, 2020

PROTOCOL INTEGER ID

43135

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BEFORE STARTING

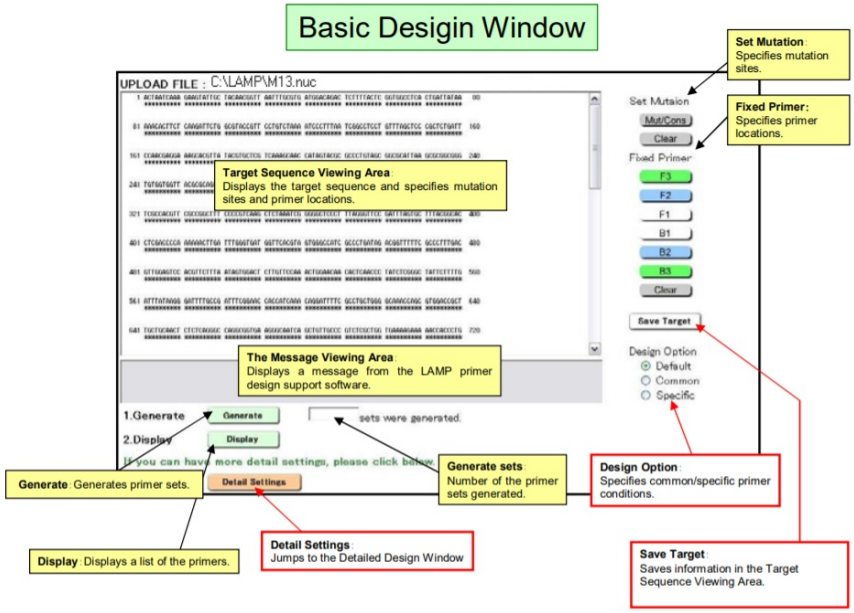
In order to design LAMP primers, one can simply download their desired FASTA file off the internet and upload it to the LAMP primer design site, Primer Explorer. This site utilizes the FASTA file the user uploads and designs 4 primers based on 6 distinct sequences. This software even designs the linker sequence that composes the inner primers. It uses the “nearest neighbor” method to find the primers that will give the appropriate melting temperature. Although this software can be installed, it's not necessary as it’s fully functional off the web.

1 Get FASTA sequence

You’ll need to look up the gene for the sequence you are trying to amplify and download the FASTA file for it.

2 Go to Primer Explorer

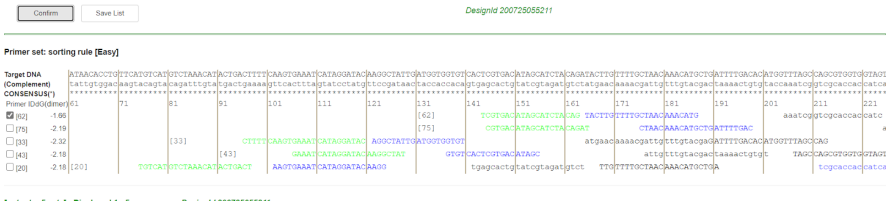
You will need to go to the Primer Explorer webpage, http://primerexplorer.jp/lampv5e/index.html, in order to upload your FASTA file.



- When the FASTA file is uploaded, it will direct you to the screen above. You can choose to manually design your primers by highlighting regions and then selecting which primer it is on the right.
- If you want the software to automatically generate primers for you then just press “Generate” when directed to the screen above.

3 Select which primers to choose from

Once the the list of primers has been generated, you can now press display to see the various options for primers you can design



Each row presented shows both the outer and inner primers that can be generated. When you’re confident in the Primer pair you want, check the corresponding box on the left and press confirm. You’ll then be directed to the confirmation page.

4 **Confirm your choice.** The confirmation page will compile all of the necessary primer information onto one page so that you can have one last check of the aspects of your primers before you order. When you are confident in your choice, save the primer information and send them out to be synthesized.

Primer Information | Save

1 ID:62 dimer(minimum)dG=-1.66

label	5'pos	3'pos	len	Tm	5'dG	3'dG	GCrate	Sequence
F3	144	163	20	55.90	-5.60	-4.07	0.45	TCGTGACATAGCATCTACAG
B3	330	351	22	56.16	-4.08	-4.41	0.32	AGGTAAGAAATGCAAAAAGTCA
FIP			43					CTACCACCACGCTGGCTAAA-TACTTGTTTTGCTAACAAACATG
BIP			45					CCATTGATTGCTGCAGTCATAAC-CATTAGTTGTGCGTAATATCGT
F2	165	187	23	55.81	-3.74	-4.21	0.30	TACTTGTTTTGCTAACAAACATG
F1c	205	224	20	61.71	-4.58	-4.09	0.55	CTACCACCACGCTGGCTAAA
B2	307	328	22	56.14	-3.23	-4.31	0.36	CATTAGTTGTGCGTAATATCGT
B1c	247	269	23	60.15	-4.66	-3.39	0.43	CCATTGATTGCTGCAGTCATAAC

5 **Take a screenshot** of the confirmation page with all of the primer results and upload it to your lab notebook.