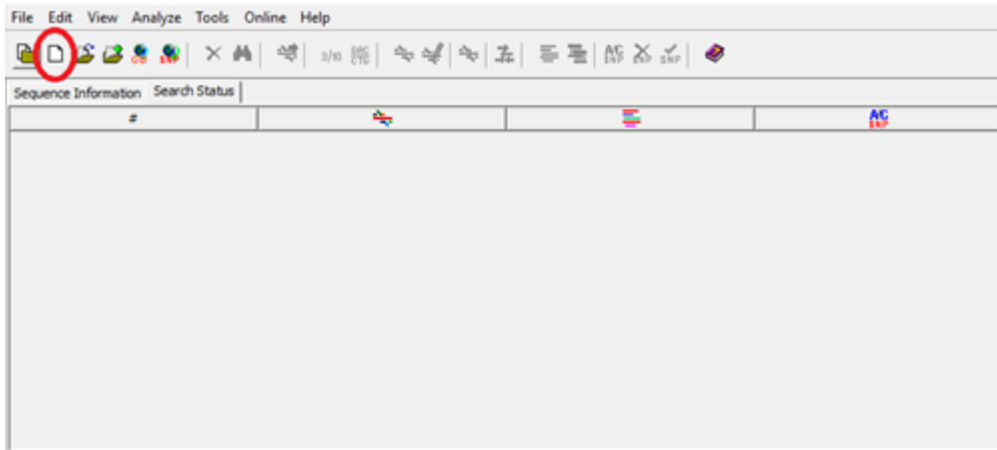


LAMP Designer Primer Design

Please use the following instructions to successfully upload and design LAMP assays

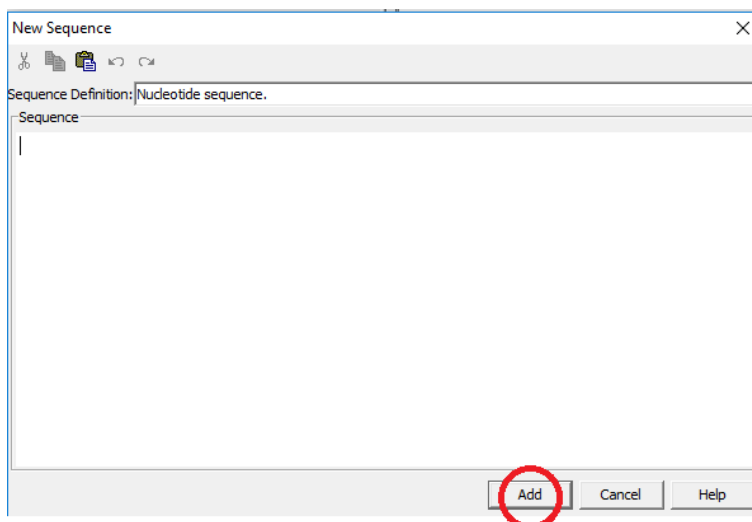
With LAMP designer open press the red circled icon to upload a new sequence



The sequence name 'nucleotide sequence' can be replaced with a name of your choice

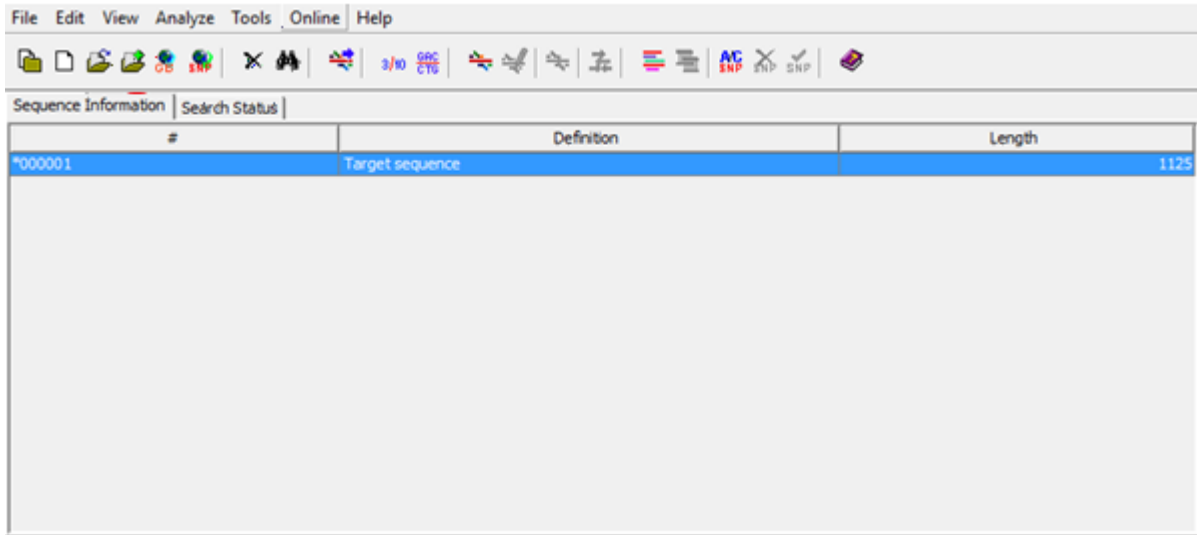
Your sequence needs to be pasted in a FASTA format into the text box

Once pasted please select the red circled [add] button

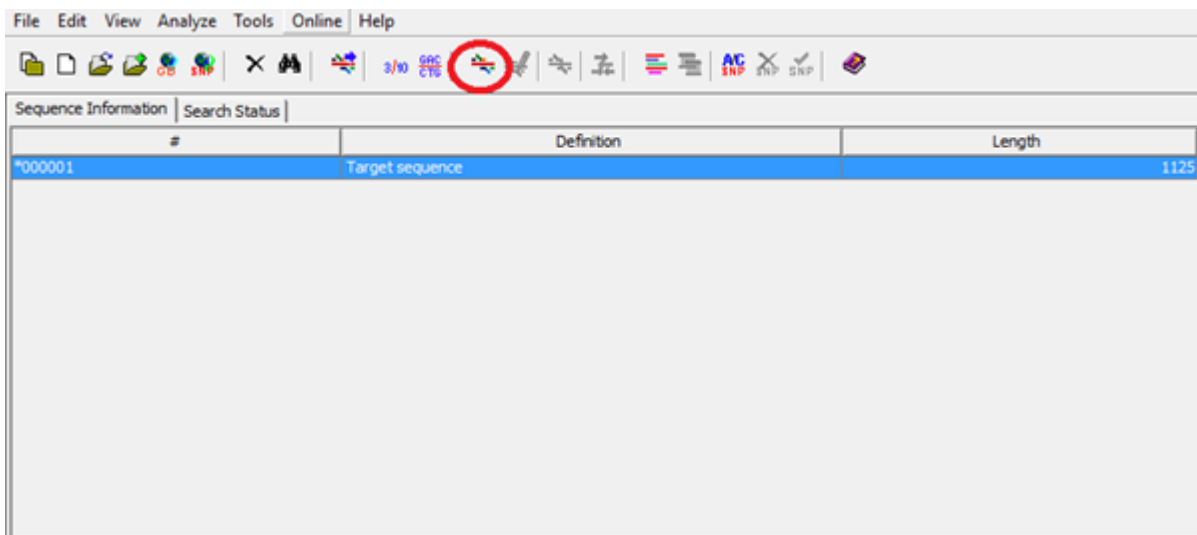


LAMP Designer Primer Design

This will add your sequence into the box as seen here as 'target sequence'.
To the right of this window will also be your actual numbered sequence
It is possible to upload more than one sequence and they will form a list



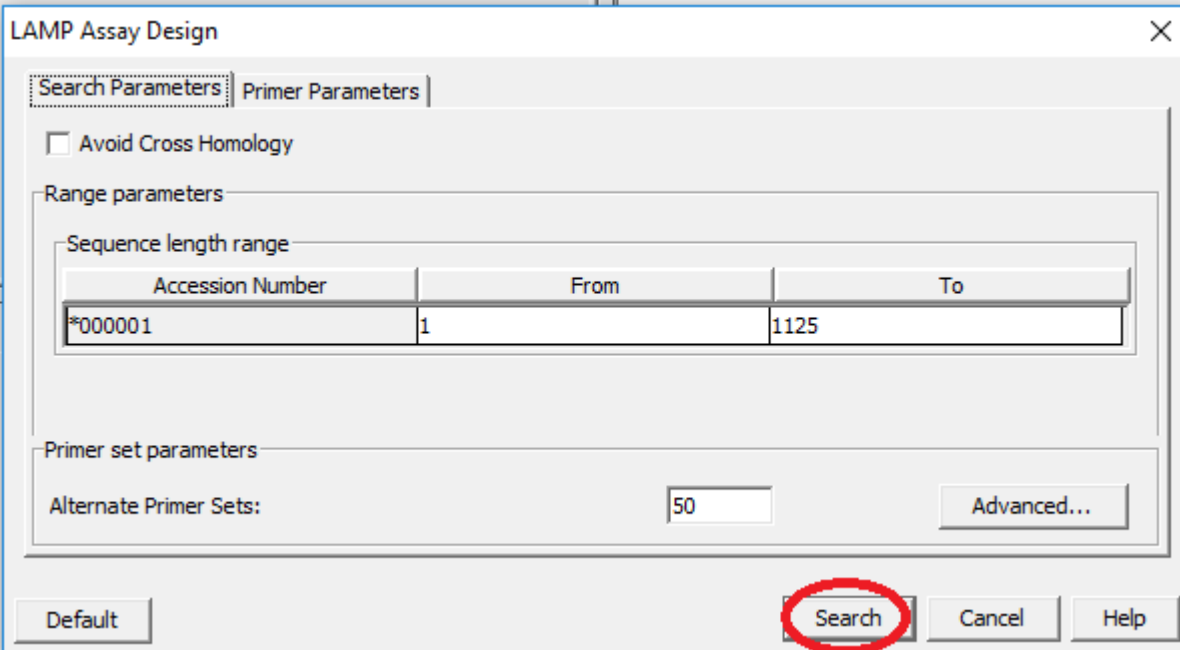
With the required sequence selected press the red circled icon to design a new LAMP assay



LAMP Designer Primer Design

The following box will appear

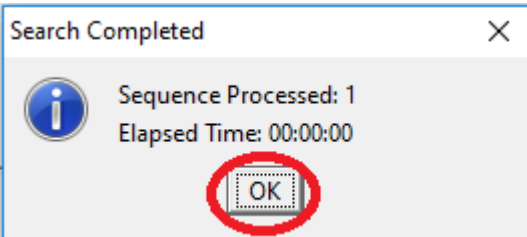
Ensure all search parameters and primer parameters are set to default and press the red circled [search] button



Accession Number	From	To
*000001	1	1125

After a short time the following should appear if assays designs are possible on default settings.

Select the red circled [ok] button

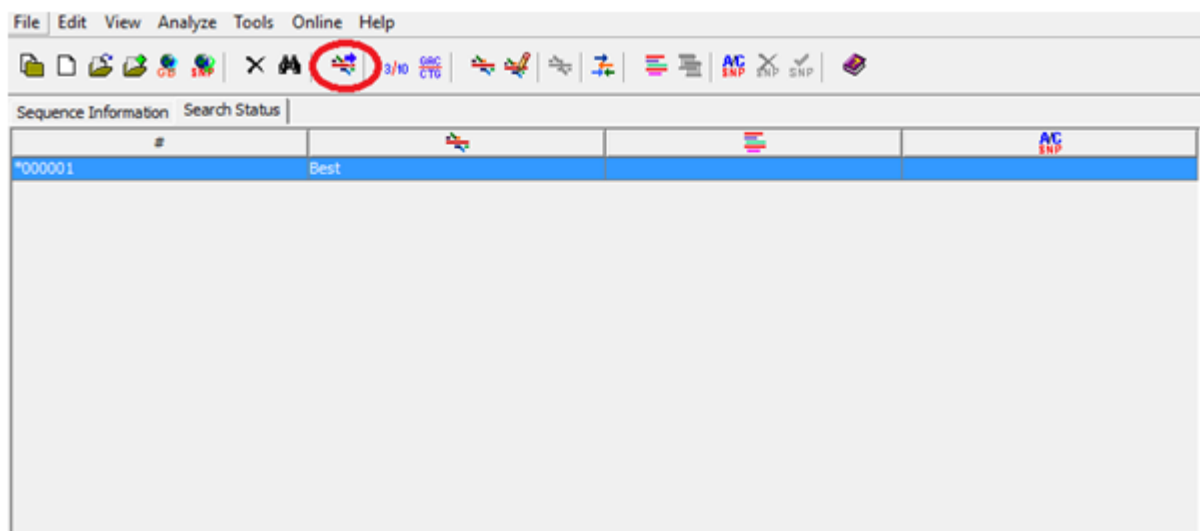


LAMP Designer Primer Design

The bottom of your window should now show some primer details. This is just one primer assay out of those generated by the programme. The right hand side will show the location of this assay on the actual sequence. To look at alternative LAMP assays designed and their location on the sequence use the [all LAMP primers] icon

Sequence	Position	Length bp	Tm °C	GC %	Rating	Harpin ΔG kcal/mol	Self Dimer ΔG kcal/mol	Run Length bp	GC Clamp	TaOpt °C	Concentration nmol/OD
P3	885	18	59.6	50	85.1	0	-0.7	3	1		5.1
B3	1,125	18	60.3	55.6	85.1	0	-0.9	3			5.1
RPB1c+P2		39									2.4
RPB1c+B2		36									2.5
LoopF	969	18	62.3	50	88.8	0	-1.7	2	2		5.3
LoopB	1,041	20	62.1	50	92.5	0	-0.7	2	1		4.9
P2	928	21	60	47.6	93.3	0	0	2	1		4.3
P1c	1,003	18	65.6	61.1	86.6	-0.3	-1.1	2	3		5.2
B2	1,096	18	60.4	55.6	91.1	0	0	2	3		5.2
B1c	1,019	18	65.1	61.1	92.9	0	-4.5	2			4.9
Product		169	77.2	60.9						57	
Set					89.7						

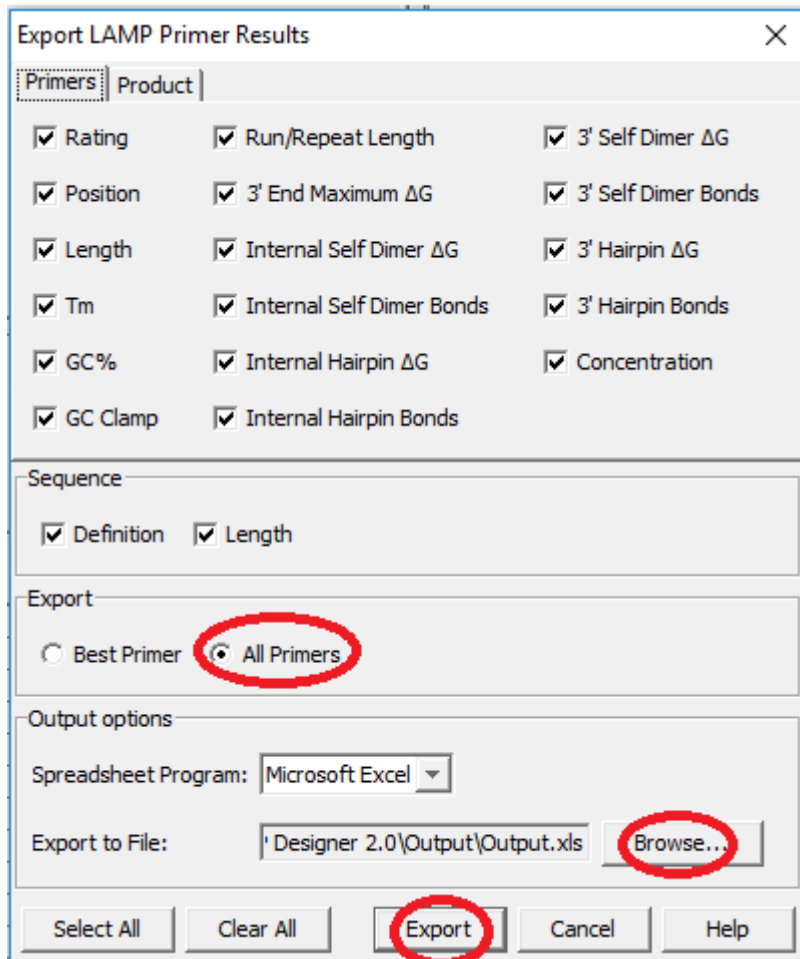
To export all assays designed into an excel file please select the red circled icon



The screenshot shows the software interface with a menu bar (File, Edit, View, Analyze, Tools, Online, Help) and a toolbar. The 'All LAMP Primers' icon, which is a red circle with a white arrow, is circled in red. Below the toolbar, the 'Sequence Information' tab is active, showing a table with one entry: '000001' with a 'Best' rating. The table has columns for sequence ID, rating, and other parameters.

LAMP Designer Primer Design

The following prompt box will appear. Please ensure that [all primers] has been selected, you can browse and change the save location of the excel file by selecting the red circled [browse] button. Once finished select the red circled [export] button to export your primers to an excel file



Export LAMP Primer Results

Primers | Product

<input checked="" type="checkbox"/> Rating	<input checked="" type="checkbox"/> Run/Repeat Length	<input checked="" type="checkbox"/> 3' Self Dimer ΔG
<input checked="" type="checkbox"/> Position	<input checked="" type="checkbox"/> 3' End Maximum ΔG	<input checked="" type="checkbox"/> 3' Self Dimer Bonds
<input checked="" type="checkbox"/> Length	<input checked="" type="checkbox"/> Internal Self Dimer ΔG	<input checked="" type="checkbox"/> 3' Hairpin ΔG
<input checked="" type="checkbox"/> Tm	<input checked="" type="checkbox"/> Internal Self Dimer Bonds	<input checked="" type="checkbox"/> 3' Hairpin Bonds
<input checked="" type="checkbox"/> GC%	<input checked="" type="checkbox"/> Internal Hairpin ΔG	<input checked="" type="checkbox"/> Concentration
<input checked="" type="checkbox"/> GC Clamp	<input checked="" type="checkbox"/> Internal Hairpin Bonds	

Sequence

Definition Length

Export

Best Primer All Primers

Output options

Spreadsheet Program: Microsoft Excel

Export to File: Designer 2.0\Output\Output.xls **Browse...**

Select All Clear All **Export** Cancel Help

LAMP Designer Primer Design

The excel will try to open automatically, to see your primers select the red circled [yes] button



Your primers should now be listed in an excel file

Please note you are only required to order

F3

B3

FIP

BIP

LoopF

LoopB

F1c, F2, B1c and B2 are not required to be ordered separately as these make up part of the FIP and BIP