

### Timeline

Week #	Goal
1	Frameshift assays of SLM 4, 9, 12, 14
2	Clone plasmid DNA SLM7 & SLM10; Transform <i>E. coli</i> with cloned plasmid DNA
3	Verify cloning success with DNA sequencing; Overexpress and purify successfully cloned plasmid DNA
4	Linearize plasmid DNA; <i>In vitro</i> transcription and purification of SLM 7 and SLM 10 RNAs
5	Continued purification of SLMs 7 and 10 RNAs
6	<i>In vitro</i> transcription and purification of SLMs 7 and 10 RNAs; frameshift efficiency assays for SLMs 7 and 10; Preparation of written and oral presentations of our results

### Budget

The requested funds will provide the biochemical tools needed to complete the experiments and provide the funds needed to subsidize full-time faculty-mentored work. I will be applying for SURP but don't know if I will be awarded a spot. Housing is not guaranteed with SURP, but it is more likely for first-time applicants (which I am). When applying to SURP, it is to work on the same project that I have proposed for the Honors Fellowship. However, SURP is only **part-time**, and the Honors fellowship would allow me to work **full-time**. The research proposed in my Honors fellowship application is what I think I could accomplish working **full-time** for 6 weeks. I understand you will have to make your decision about the Honors Fellowship before the SURP program will make its decisions. If I am not awarded SURP, I still would like to research part-time. Although my research progress would be more limited, it would still be an incredibly useful experience for me. Lastly, I have also applied for the SOAR program but I was not awarded a spot in it. Below are two budgets, conditioned with receiving and not receiving SURP.

**Updated budget (if awarded SURP – full-time employment (35 hrs/week) for 6 weeks (summer session 1)): Total = \$1,192.50 + \$ for supplies and materials (as possible)**

1. 90 hours of paid (\$13.25/hour) part-time support = **\$1,192.50**.
  1. This will be combined with the 120 hours from SURP (20 hours x 6 weeks = 120 hours) to get you to 210 hours = 35 hrs / week for 6 weeks.

**Updated budget (if not awarded SURP – part-time employment (20 hrs/week) for 6 weeks (summer session 1)): Total = \$3,110 + \$ for supplies and materials (as possible)**

1. 120 hours of paid (\$13.25/hour) part-time support = \$1,590
2. Housing for 6 weeks (estimated at \$1,520.00 = the cost of LMU on-campus housing for summer session 1, [link](#)).

**Additional items that would be helpful, but aren't critical to my participation in summer research:**

1. Supplies and Materials (**total cost: \$2,281.69**)
  1. These costs do not depend upon me getting the SURP or SOAR.
  2. If not provided any support for supplies and materials, this project can still be completed during the summer of 2019.
  3. Specific supplies and materials requested:
    - i. NEB DH5alpha high efficiency cells (\$197, catalog # C2987H, New England Biolabs, [link](#)) – this will be used for cloning of several new HTLV-1 gag-pro SLM p2luc plasmids
    - ii. QIAprep Spin Miniprep Kit (250) (\$414, catalog #27106, Qiagen, [link](#)) – this will be used for the purification of cloned DNA in quantities appropriate for gel analysis and DNA sequencing.
    - iii. QIAfilter Plasmid Maxiprep Kit (25) (\$676, catalog # 12263, Qiagen, [link](#)) - this will be used for the purification of cloned DNA in quantities appropriate for *in vitro* transcription.
    - iv. Teknova LB Luria Broth (\$125.59, catalog # 50-842-699, Fisher Scientific, [link](#)) – this will be used for the growth of transformed bacteria (needed for DNA amplification prior to purification)
    - v. GeneMate ME Agarose (\$285.30, catalog # E-3121-125, Bioexpress, [link](#)) - this will be used to make agarose gels. We use these gels to analyze cloned DNA size and integrity prior to having it sequenced.
    - vi. Pipet tips \$583.80 (these will be used to complete all experiments)
      - i. P10 filter-tip refills (\$117.80, catalog # 02-707-473, Fisher Scientific, [link](#))
      - ii. P20 filter-tip refills (\$123.10, catalog # 02-707-476, Fisher Scientific, [link](#))
      - iii. P100 filter-tip refills (\$122.80, catalog # 02-707-477, Fisher Scientific, [link](#))
      - iv. P200 filter-tip refills (\$117.10, catalog # 02-707-478, Fisher Scientific, [link](#))
      - v. P1000 filter-tip refills (\$103, catalog # 02-707-480 Fisher Scientific, [link](#))