Annotated Bibliography

Review Article:

1) "The HIV-1 env protein: a coat of many colors."

Arrildt, K. T., Joseph, S. B., & Swanstrom, R. (2012). The HIV-1 env protein: a coat of many colors. *Current HIV/AIDS Reports*, *9*(1), 52-63. doi:10.1007/s11904-011-0107-3

- **The link to the abstract from PubMed.**
  - https://www.ncbi.nlm.nih.gov/pubmed/22237899
- **The link to the full text of the article in PubMed Central.**
  - https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3658113/
- **The link to the full text of the article (HTML format) from the publisher website.**
  - http://link.springer.com/article/10.1007%2Fs11904-011-0107-3
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- **Write 2-3 sentences about why this article is relevant to your project.**

This article is a review article that basically summarizes and explains how the env gene works within HIV-1 patients and the path in how it is activated in CD4-T cells. This is useful to our project to give a very good overview on how this process is working and how this may effect our hypothesis and why we find the trends we do.

Primary Articles:

2) "HIV-1 envelope diversity 1 year after seroconversion predicts subsequent disease progression"

Rachinger, A., Kootstra, N. A., Gijsbers, E. F., van den Kerkhof, T. L., Schuitemaker, H., & Van't Wout, A. B. (2012). HIV-1 envelope diversity 1 year after seroconversion predicts subsequent disease progression. *AIDS*, *26*(12), 1517-1522. doi: 10.1097/QAD.0b013e328354f539.

- **The link to the abstract from PubMed.**
  - https://www.ncbi.nlm.nih.gov/pubmed/?term=HIV-1+envelope+diversity+1+year+after+seroconversion+predicts+subsequent+disease+progression
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  - no, this article was not available through LMU
- **Write 2-3 sentences about why this article is relevant to your project.**
  - This article is aimed at determining if viral diversity early in the infection of HIV can show how the disease can progress. This is helpful with our paper as it also discusses the diversity that can be seen within the env gene between patients and the progression through a portion of the course of the disease which we are also looking at.

3) "Identification of a Cluster of HIV-1 Controllers Infected with Low Replicating Viruses"

Casado C, Pernas M, Sandonis V, Alvaro-Cifuentes T, Olivares I, Fuentes R, et al. (2013) Identification of a Cluster of HIV-1 Controllers Infected with Low Replicating Viruses. PLoS ONE 8(10): e77663. doi:10.1371/journal.pone.0077663

- **The link to the abstract from PubMed.**

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- **Write 2-3 sentences about why this article is relevant to your project.**
    - This article looks at subjects with HIV-1 that have low replicating viruses (non-progressors) and the reasons behind why these numbers are low. It discusses non-progressor patients which could be helpful to included in our discussion as we may not be including non-progressor patients in our project as those patients do not have enough data points.

4) "Previously transmitted HIV-1 strains are preferentially selected during subsequent sexual transmissions"

Redd, A. D., Collinson-Streng, A. N., Chatziandreou, N., Mullis, C. E., Laeyendecker, O., Martens, C., ... & Grabowski, M. K. (2012). Previously transmitted HIV-1 strains are preferentially selected during subsequent sexual transmissions. Journal of Infectious Diseases, jis503 doi: 10.1093/infdis/jis503

- **The link to the abstract from PubMed.**
    - https://www.ncbi.nlm.nih.gov/pubmed/?term=Previously+transmitted+HIV-1+strains+are+preferentially+selected+during+subsequent+sexual+transmissions
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- **Has LMU paid a subscription or other fee for your access to this article?**
  - yes
- **Write 2-3 sentences about why this article is relevant to your project.**
  - This article is very interesting as it discusses how transmission can effect the viral diversity at the population level of HIV-1. This is relevant to our project as it also relates the the diversity seen in HIV-1 from patient to patient.

A) Use a keyword search for the three databases and answer the following:

<u>PubMed</u>

- **What original keyword(s) did you use? How many results did you get?**
  - HIV-1 and env gene
    - 4,877
- **Which terms in which combinations were most useful to narrow down the search? How many results did you get after narrowing the search?**
  - HIV-1 and env gene and CD4 T cells all in the title or abstract was much better, down to 27 results

<u>Google Scholar</u>

- **What original keyword(s) did you use? How many results did you get?**
  - HIV-1 and env gene diversity
  - about 32,000

- **Which terms in which combinations were most useful to narrow down the search? How many results did you get after narrowing the search?**
  - putting the different key words and phrases in quotations was much more successful although still had a lot of results - about 9,200
  - "HIV-1" and "env gene" diversity

Web of Science

- **What original keyword(s) did you use? How many results did you get?**
  - HIV-1 and env gene
  - 2,116 results
- **Which terms in which combinations were most useful to narrow down the search? How many results did you get after narrowing the search?**
  - using quotations and adding CD4 T cells (HIV-1 and env gene and CD4 T cells)
  - 40 results

B) Use the advanced search functions for each of these three databases/tools and answer the following:

PubMed

- **Which advanced search functions were most useful to narrow down the search? How many results did you get?**
  - only searching in “title/abstract” - 27 results

Google Scholar

- **Which advanced search functions were most useful to narrow down the search? How many results did you get?**
  - quotations were more helpful, brought it down to 2,980 results
  - "HIV-1" and "env gene" diversity and "CD4 T cells"

Web of Science

- **Which advanced search functions were most useful to narrow down the search? How many results did you get?**
  - using quotations and adding CD4 T cells (HIV-1 and env gene and CD4 T cells)
  - 40 results
  - also looking at only from 2011-2016 brought it down to 11 results

C) Perform a prospective search on the following three review articles in Web of Science and

- Markham, R. B., Wang, W. C., Weisstein, A. E., Wang, Z., Munoz, A., Templeton, A., … & Yu, X. F. (1998). Patterns of HIV-1 evolution in individuals with differing rates of CD4 T cell decline. Proceedings of the National Academy of Sciences U S A, 95(21), 12568-12573. DOI: 10.1073/pnas.95.21.12568
- **How many articles does this article cite?**
  - 51 cited references
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