From Lab Bench to Your Medicine Cabinet

Week 4 – Proteomics

Helpful Review
Proteomic methods for drug target discovery
Lekha Sleno and Andrew Emili
And
Antibody-based identification of cell surface antigens: targets for cancer therapy
Deryk T Loo and Jennie P Mather
Also see:
for a quick review on T cell/MHC I and
for an introduction on antitumor immunity.

In-class Discussion Questions

1. What general class of therapeutics is the author’s investigating? Why?
2. What is immunochemistry?
3. What is proteomics? What is it used to used to do in this paper?
4. What is the general strategy for designing/selecting the therapeutic?
5. The authors extract MHC-II peptides from two melanoma cell lines and the EBV-B cell counterparts? What are these cells and what is the purpose of the EBV-B cells?
6. Pick a protein in Table 1 and in a quick search find out what the cellular function is.
7. In addition to finding MHC-II antigen targets that may be specific to melanoma, are there other findings that are interesting? Find one or two to discuss.
8. There are three figures (Fig. 1-3) associated with the second half of the paper. What is the main purpose of these experiments? What are they trying to show? Are they convincing?
9. Propose a set of new experiments to do based on the results of this paper.