

Gene Therapy, Proteins, IP

1. Discuss advantages and disadvantages of liposome-based vs. adenoviral delivery of therapeutic genes.
2. There are several significant problems that are common to protein-based drugs but are not big issues with most small-molecule pharmaceuticals. Name two such issues and discuss ways how to overcome them.
3. Discuss main differences between the patent laws in the United States and in the European Union. What actions should pharmaceutical companies take to ensure worldwide protection of their invention?

Project development.

You should have your drug discovery project nearly finished by this week. You will present your project during our poster session this Friday noon in the Chemistry breezeway. The discussion with fellow students and faculty members will help you to find ways to strengthen the final version of your project, due on June 7th.

As your final task you need to find out if you can realize your scientific idea. To answer this, please focus on the following:

- 1) Identify if your discovered drug or treatment approach infringes any current patents. The best way to find this out is to search the website of the US Patent and Trademark Office at <http://www.uspto.gov> for existing treatments of the disease you are targeting. If you are working on a drug that everybody else is trying to cure (HIV, Alzheimers) you need to narrow your search down. Because you are not expected to be a patent lawyer, you only need to identify patents (by the number and title) that **potentially may cover** your discovery; you **do not need to decide** if their patent claim actually covers your idea. However, please do not submit numbers and names of patents that clearly do not apply to your approach.
- 2) Develop your strategic plan. Remember, in real life you need money to realize your dream idea. The venture capitalists want to see a business plan as much as they want to hear your science. Identify resources that you need to carry out the work and come up with some justified estimate what it will cost to get your drug to the market under the best case scenario.