Title: Microencapsulation of tissues and cells for treatment of hormone-related diseases. (microencapsulation), Project #4

Client: Dr. Craig Atwood
Faculty Advisor: Professor William Murphy

Team Members: Eric Lee (Team Leader)
Yik Nong Wong (Jacqueline) (Communicator)
Miguel Benson (Communicator)
John Harrison (BSAC)
Albert Kwansa (BWIG)

Dates: 3/9/07~3/15/07, Week 8

Project Design Statement: To investigate the effects of thickness, UV radiation exposure, and RGD adhesion molecules on the viability and testosterone production of human prostate cancer cells embedded within polyethylene glycol diacrylate hydrogel. The overall goal of this project is to design an encapsulation system that offers efficient immunoprotection and effective diffusion of oxygen, nutrients, hormones, and metabolic wastes. Conceptually, the stated encapsulation system, along with embedded human prostate cancer cells, will enable the restoration of un-regulated testosterone levels commonly observed in elders, and retard the symptoms of aging.

Restatement of Previous Team Goals:
1. Get HPLC data of our PEGdA product
2. Get trained and an update on the cell line
3. Obtain new bulb for the UV light
4. Get into contact with professors at Medical Physics department and work out the details of using ultrasound to measure thickness

Summary of Team Accomplishments:
1. Mid-semester presentation
2. Performed dialysis for our PEGdA product
3. Contacted Dr. Tim Stiles from Medical Physics department
4. Contacted Client to set up an appointment

Current Individual Goals:
• Eric Lee:
  Edit the K~12 outreach report. Contact Amy for more project supply and information on obtaining RGD.
• Jacqueline Wong:
  Write the imaging section of the outreach report. E-mail the biotech center to inquire the price of RGD
• Miguel Benson:
  Write the imaging section of the outreach report. Monitor dialysis of our PEGdA product.
• John Harrison:
  Write the biomaterials section of the outreach report. Contact the Client for cells and meetings.

• Albert Kwansa:
  Write the tissue engineering section of the outreach report. Update the website.

Summary of Team Goals:
1. Perform another diacrylation reaction to produce more PEGdA
2. Contact Amy for more dialysis tubing and information on how to obtain RGD peptides
3. Set up meetings with Dr. Stiles and Dr. Atwood