

Molecular Antibody Protein Structure Model

Team: Jonathan Mantes – Team Leader
Andy LaCroix – BSAC
Kimberli Carlson – Communicator
Kara Murphy – BWIG

Week: September 5 – September 11

Client: Marge A. Sutinen
Dept. of Medicine
UW School of Medicine and Public Health
Phone - 608.261.1152, 608.279.2127 (Cell)
Email – ms2@medicine.wisc.edu

Advisor: Wan-Ju Li
3148 Engineering Centers Building
5051 Wisconsin Institutes Medical Research
263-1338
li@ortho.wisc.edu
http://www.engr.wisc.edu/bme/faculty/li_wan-ju.html

Problem Statement

HIV is a virus that progressively leads to the development of acquired immunodeficiency syndrome (AIDS), a life threatening condition that attacks white blood cells and destroys the human immune system. HIV attacks CD4 cells located on white blood cells and permanently attach themselves to host viral reproduction. HIV is an irreversible condition that is often contracted through sexual intercourse. This very serious virus is most often contracted through sexual interaction. Many people, including our client, work to educate people the effects of HIV and ways of preventing this harmful virus. Currently there is no model to demonstrate the severity of the virus and the permanent effect that it has on the body. Our team needs to develop a creative 3D model to demonstrate the attack of HIV on a CD4 cell and the reproductive capabilities of the virus. This model needs to be color coded and visible to a class of 30 students. A simple explanation should also be included with the model which explains the interaction of CD4 receptors and HIV. Our client is looking to use the model as an aid in teaching HIV and AIDS prevention.

Last Week's Goals

- Pick team project
- Arrange client meeting/ meet with client
- Research material and questions for client meeting

Accomplishments

- Met with Client
- Researched about HIV and CD4 cells
- Began brainstorming ideas

Next Week's Goals

- Brainstorm more ideas
- Pick a few good ideas
- Communicate with client our ideas
- Write Product Design Specification (PDS) report

Difficulties

- We need to come up with a creative idea to portray the attachment of HIV to CD4 cells that will emphasize the importance of HIV prevention
- We need to research the exact structure and process of HIV attachment to CD4 cells

Team Effort

Team Member	Accomplishments	Time (Hrs)	Running Total (Hrs)
Jonathan Mantes	Research HIV and CD4 binding, Research model construction, Brainstorm ideas for model	2.75	2.75
Andy LaCroix	Research HIV and CD4 binding, Research model construction, Brainstorm ideas for model	3.0	3.0
Kimberli Carlson	Research HIV and CD4 binding, Research model construction, Brainstorm ideas for model	3.0	3.0
Kara Murphy	Research HIV and CD4 binding, Research model construction, Brainstorm ideas for model	3.0	3.0
Entire Team	Meet with client	1.0	1.0

Project Schedule

TASK	September			October					November				December		
DATES	11	18	25	2	9	16	23	30	6	13	20	27	4	11	18
WORK															
Brainstorming															
Research															
Designing Prototype															
Selecting Prototype															
Obtaining Materials															
Building Prototype															
Testing Prototype															
Modifications															
DELIVERABLES															
PDS															
Mid-Sem. Report															
Mid-Sem. Presentation															
Final Report															
Final Presentation															
Weekly Reports															
Notebooks															
MEETINGS															
Team Meetings															
Client Meetings															
Advisor Meetings															
BSAC Meetings															
Other Meetings															
OTHER															
Web Page															
Special Lectures															

Expenses to Date:

- No expenses to report at this time.