

Proteopedia Project (Lesson W-JM)

Requesting an Account

1. Open a web browser and go to <http://www.proteopedia.org>.
2. In the upper right corner of the page, click on *Request Account*.
3. Enter the required information to request an account. When explaining your background, simply state that you are a Chemistry or Biology major in an undergraduate Biochemistry course.
4. Check your e-mail for a message from Proteopedia and click on the link to confirm your account. Some students have had luck using their Rio email for this, while others have not. If you do not receive an email within a day's time, please let me know before requesting a second account under a different email address.
5. While you are waiting for your account, watch the video guide (http://proteopedia.org/wiki/index.php/Proteopedia:Video_Guide#Video_7:_Adding_scenes_.28green_links.29) and view the editing-help page (<http://proteopedia.org/wiki/index.php/Help:Editing>).

Exploring Proteopedia

The graphics box is a 3D image that you control

- To Rotate → Drag the mouse
- To Zoom → Shift Drag the Mouse

Search for Neuraminidase (press the Go button instead of the Search button)

Read through the H1N1 entry to learn about Neuraminidase and Tamiflu

- Click on Green Links to change the image.

Search Proteopedia (press the Go button instead of the Search button)

- Try Hemoglobin or HIV protease
- Search using a 4 letter PDB identifier. Try 1A6M for myoglobin.

Examples of Proteopedia Pages created by Rio Grande students (shows what is expected for the final entry)

http://www.proteopedia.org/wiki/index.php/Hairpin_Ribozyme

<http://www.proteopedia.org/wiki/index.php/Tetanospasmin>

http://www.proteopedia.org/wiki/index.php/Guanine_riboswitch

Create and Edit your own Sandbox Page

- Search for your assigned sandbox from 1576 to 1597 ("sandbox reserved _____")
- Login: *assigned username and password sent to you by e-mail*
- Click on Edit This Page
- Add some text and format using Wiki syntax
 - Make sure to use in-text citations, as appropriate
- Edit a scene using the Scene Authoring Tool
 - Load a Molecule
 - Select atoms (Show halos to see selection)

- Make changes to selection: Representation, Color, Label
- Rotate to View
- Save Scene
- Copy Scene ID into page
- Save page changes
- Repeat until happy

Help with Proteopedia editing (Video Guide):

http://proteopedia.org/wiki/index.php/Proteopedia:Video_Guide

Help with creating Proteopedia scenes:

<http://proteopedia.org/wiki/index.php/Proteopedia:DIY:Scenes>

Help with In-Text Citations:

http://proteopedia.org/wiki/index.php/Help:Editing#Citing_Literature_References

Biological Molecule Project

Create a Proteopedia page that contains:

- Name of molecule
- Background of molecule
- Specific function of molecule
- Significance of molecule
- Other interesting information (diseases, catalysis, regulation)
- Structural Highlights
 - Overview Scene
 - A minimum of two Secondary Structure Scenes (e.g., highlight the binding site of the biomolecule if the binding site is known)

RNA Structures

PDB codes found at: <http://www.pdb.org>

- adenine riboswitch (1Y26)
- TPP riboswitch (2GDI)
- SAM riboswitch (2GIS)
- leadzyme (2LDZ)
- twister ribozyme (4OJI)
- hatchet ribozyme (6JQ5)

Protein Structures

PDB codes found at: <http://www.pdb.org>

- human folate receptor (4LRH)
- human carbonic anhydrase I (2CAB)
- zinc metallo-beta-lactamase (1BMC)
- lysyl-tRNA synthetase (1BBW)
- glutaminyl-tRNA synthetase (1NYL)
- nitrate transporter (4IU9)
- FhaC membrane transporter (4QKY)

Proteopedia Webpage Scoresheet

Name _____

1 = inadequate; 2 = substantial deficiencies; 3 = many problems; 4 = few problems; 5 = no problems

WRITTEN CONTENT	1	2	3	4	5
Background (Was the purpose/importance of the molecule made clear?)					
Molecular Function (Was the exact function of the molecule made clear?)					
Other Information (Was the relevance of the other information made clear?)					
Overall Layout (Did the written content look professional? Was the organization of the written content logical?)					
Extent of Research (Was sufficient research conducted to write a thorough page?)					
References (Were references used appropriately?)					
Total Score					

MOLECULAR GRAPHICS	1	2	3	4	5
Overview Scene (Was the view of the overview scene presented in a manner such that the structure was clear to see?)					
Secondary Structure Scenes (Were there at least two such scenes? Were the secondary structure scenes relevant to the written content?)					
Secondary Structure Scenes (Was the view of the secondary structure scenes presented in a manner such that the structures were clear to see?)					
Link Placement (Were the links to the graphical views placed appropriately in the written content?)					
Total Score					

FINAL SCORE _____

Comments: