



First Time Plugin Installation (to read enhanced article online)

Support: isee@sgc.ox.ac.uk

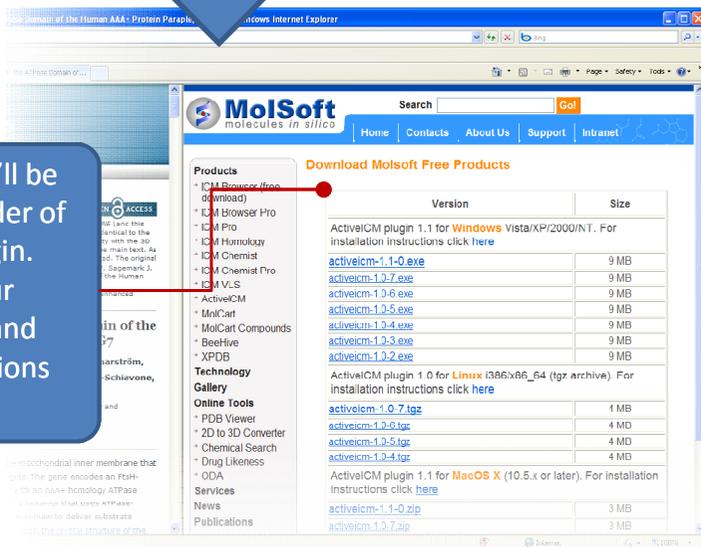
- ❑ Identify and click on the link in the PLoS article. This will take you to the SGC's website with the enhanced iSee version of the article.

- ❑ You will reach a page which looks like this:



You'll need to install the activeICM plugin in order to see the 3D interactive window – please click on the link from the right window.

Upon clicking, you'll be taken to the provider of the activeICM plugin. Please identify your operating system and follow the instructions on this document.



- ❑ **Windows (XP, Vista, Windows 7)**

- Download and run the latest installer (**in bold**) and follow the installation instructions
- Close all web browser windows and restart web browser
- **Supported web browsers:** Firefox, IE, Opera or Chrome.

- ❑ **Mac OS X**

- Download and copy the latest version (**in bold**) to /Library/Internet Plug-Ins folder
- double click on the zip archive to unpack it.
- Close all web browser windows and restart web browser
- **Supported web browsers:** Safari, Firefox

- ❑ **Linux**

- Download the latest version (**in bold**)
- `tar xzf activeicm-{version}.tgz` (to unpack the archive)
- `cd activeicmplugin`
- `sh activeicm-plugin-installer` (runs the installer; follow the installation instructions)
- Close all web browser windows and restart web browser
- **Supported web browser:** Firefox

- ❑ **After restarting your browser, open again the link to the enhanced version of the article.**

iSee – Quick Reference Chart

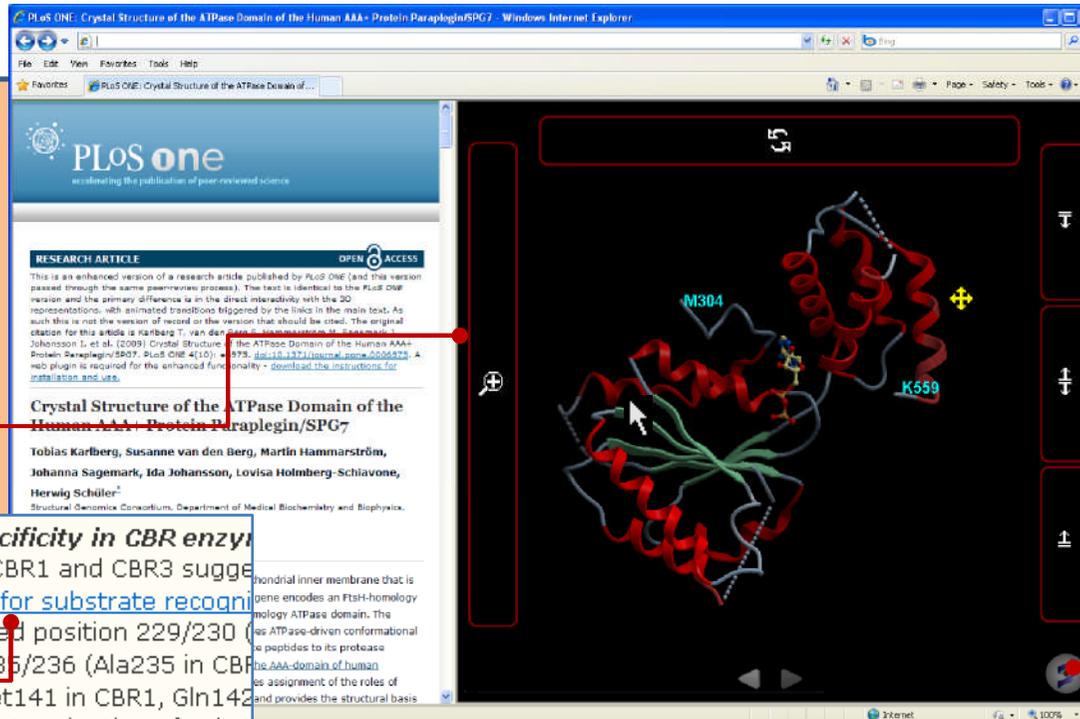
There are two main windows in every iSee session – one with text and static images (left) and another which allows interaction with 3D objects (right). The features and behaviours for each window are described below. **Support:** isee@sgc.ox.ac.uk

Text and images

- You can resize the browser's main window as well as the ratio between the text/ 3D windows. Place your mouse over the divider, left-click (keep pressed) and drag to resize.

Critical residues for quinone specificity in CBR enzymes
 Comparison of the active sites of CBR1 and CBR3 suggests three residue positions are critical for substrate recognition and catalysis. In particular, we identified position 229/230 (Pro229 in CBR1, Pro230 in CBR3), position 235/236 (Ala235 in CBR1, Pro236 in CBR3) and position 141/142 (Met141 in CBR1, Gln142 in CBR3) as the most likely candidates for determination of substrate specificity. To assess the effect of site-directed mutagenesis on the catalytic activity of these enzymes, we have expressed and purified the mutant proteins and determined their catalytic activity. The results show that the mutant enzymes are significantly less active than the wild-type enzymes. This suggests that the identified residues are indeed critical for substrate recognition and catalysis. The assignment of the roles of these residues provides the structural basis for the observed differences in substrate specificity between CBR1 and CBR3.

- Underlined text is linked to a scene in the 3D window explaining that topic and can be clicked to activate the scene
- Once the scene is shown, you can interact directly with the 3D window to better examine the feature being presented.
- The navigation is not sequential: you can choose to see any scene, anytime, in any order.
- The font size of the text can be changed by using Ctrl+ and Ctrl-
- At any point you can reset the scene to the initial state using the 'reset' link in the text.



Interactive 3D

- Everything displayed in this window can be manipulated using the mouse
- The 3D window has several 'hot-zones' (marked as red boxes in the figure), which provides access to operations that change the scene's view
- Move the cursor into one of these zones to change the dragging function of your mouse (see below)
- Direct access to each scene via control menu

All the functions described below assumes clicking + holding on the button indicated (i.e. dragging):

- move = rotation
- up/down = zoom in/out
- up/down = zoom in/out
- up/down = clip back plane
- up/down = clip back+front planes
- up/down = clip front plane

Middle button
 + move = translation

Right button
 move = selection (markers appear); select empty zones to remove selection

