

Download MIPAV

Go to MIPAV website using the following link (<https://mipav.cit.nih.gov>). Once there you can click on the download link, which is on the left hand side of the web page. This takes you to a page with the terms and conditions of use for the software. You need to agree to these terms by clicking on the two appropriate buttons at the bottom of the page and then clicking on the box marked submit.

After clicking on submit you will be redirected to the page where you can select the version of MIPAV that is appropriate for your system. Follow the instructions on this page and download and install MIPAV onto your computer.

Using MIPAV to view Ratlas-LH.

MIPAV is useful for the display and analysis of MRI and other types of three dimensional image datasets. It has a help section where you can find out about the various functions of the software. Below is a short summary of how to find stereotaxic coordinates from Ratlas-LH using MIPAV.

Make sure that you have the Ratlas-LH.nii.gz dataset saved on your computer.

Start MIPAV by double clicking the icon.

Click on the File dropdown menu and select *Open image (A) from disk (Figure 1)*

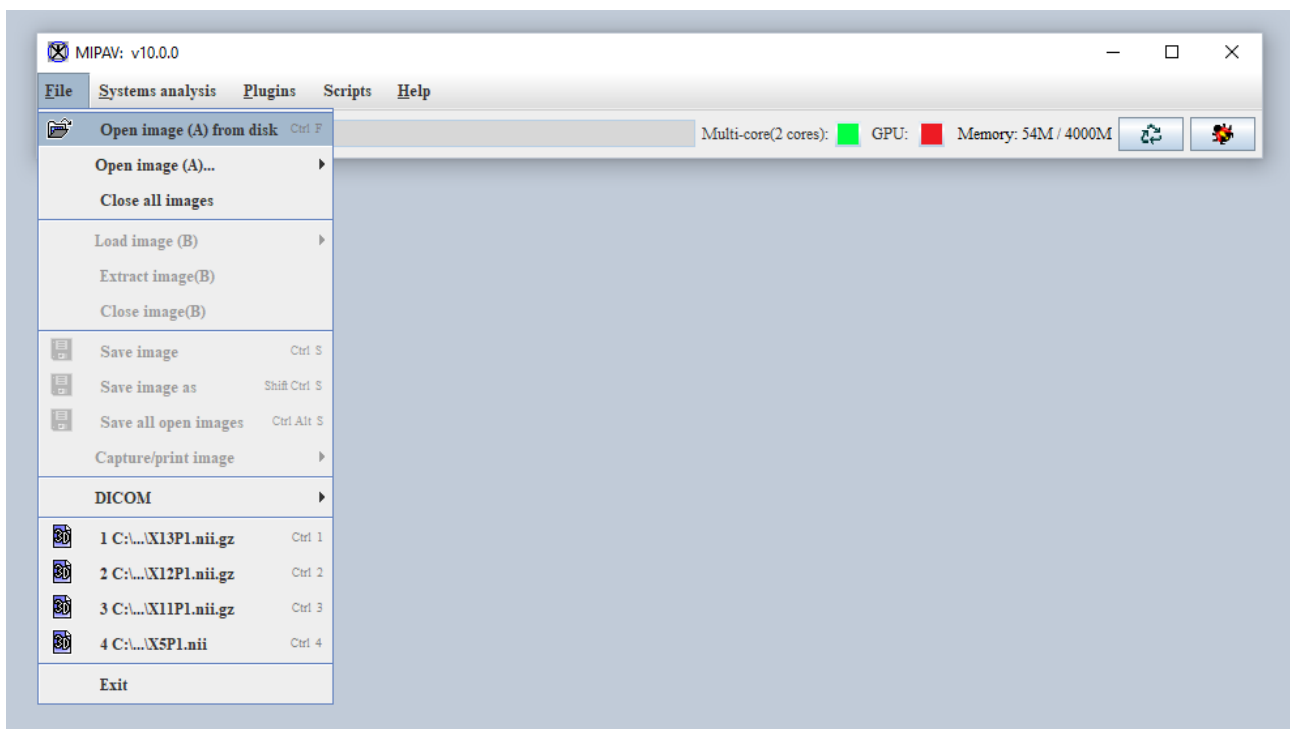


Figure 1. Starting the file import protocol.

Navigate to the directory where you have stored Ratlas-LH (**Figure 2**).

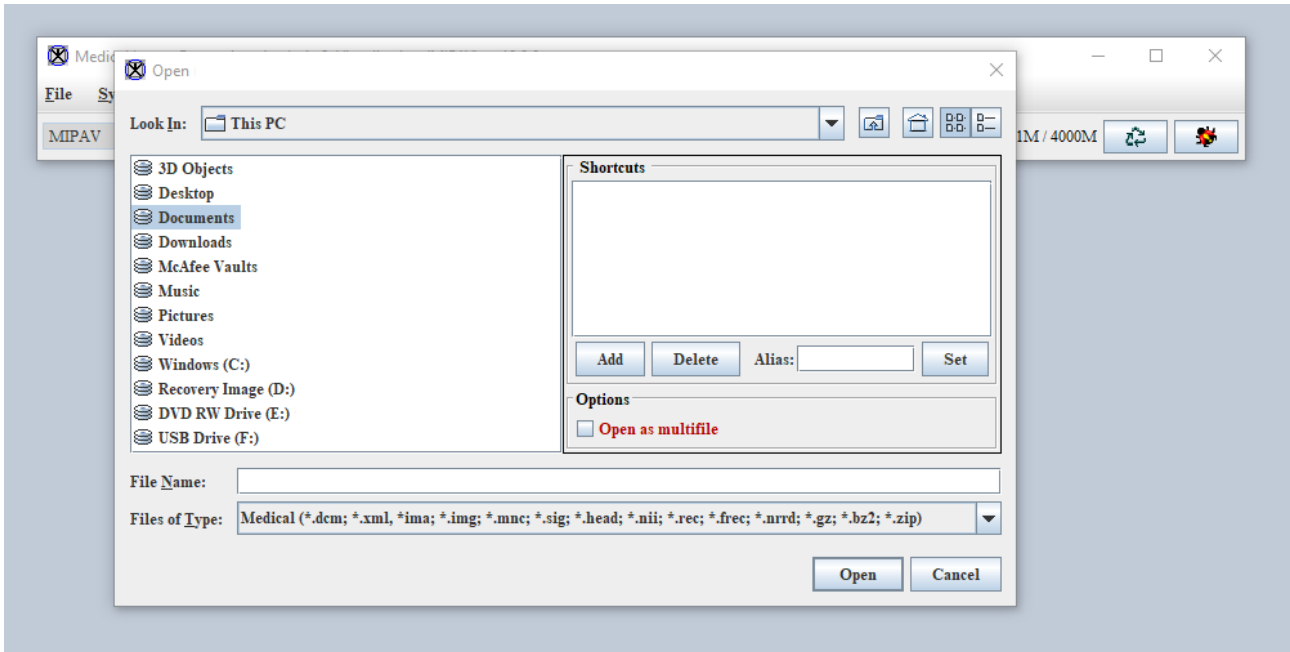


Figure 2 Directory navigation

Open Ratlas-LH.nii.gz by selecting it in the lower pane and then clicking on open (**Figure 3**).

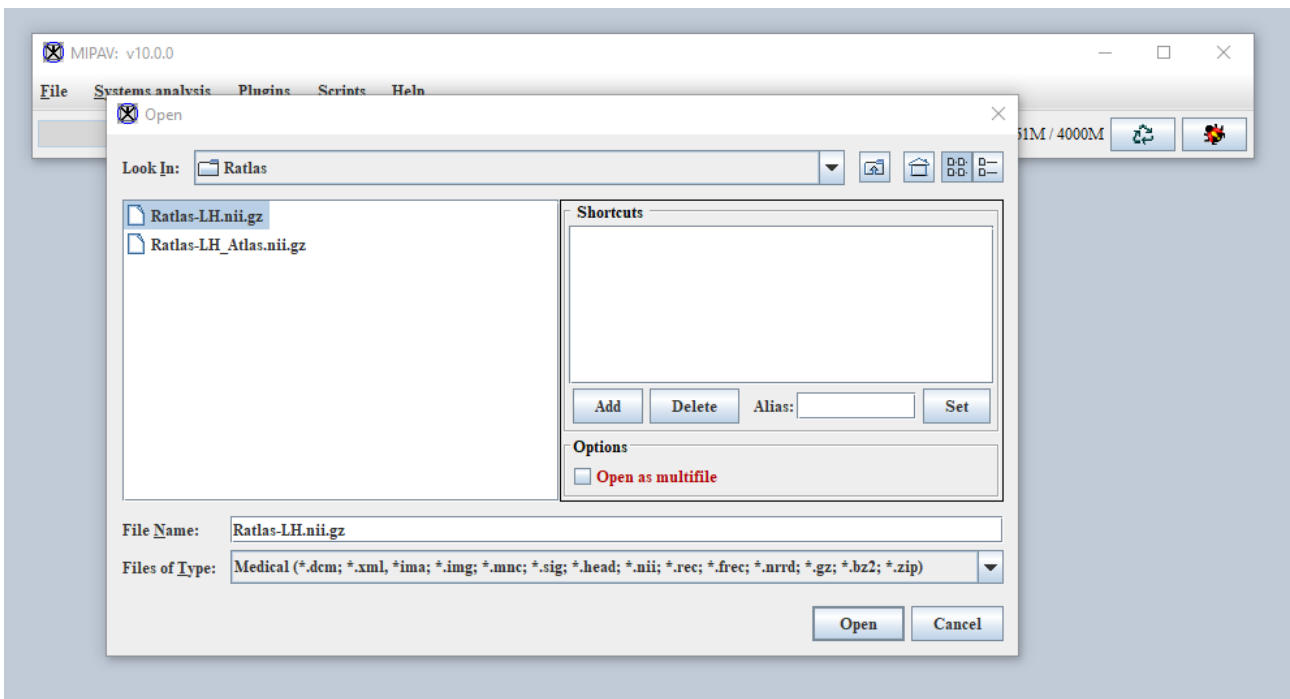


Figure 3. Opening Ratlas-LH

A window will open that can be used to view Ratlas-LH at different dorso-ventral levels. However, in order to find coordinates you will need to use the tri-planar view. Click on the tri-planar view icon on the tool bar, which is highlighted by the red circle in **Figure 4**.

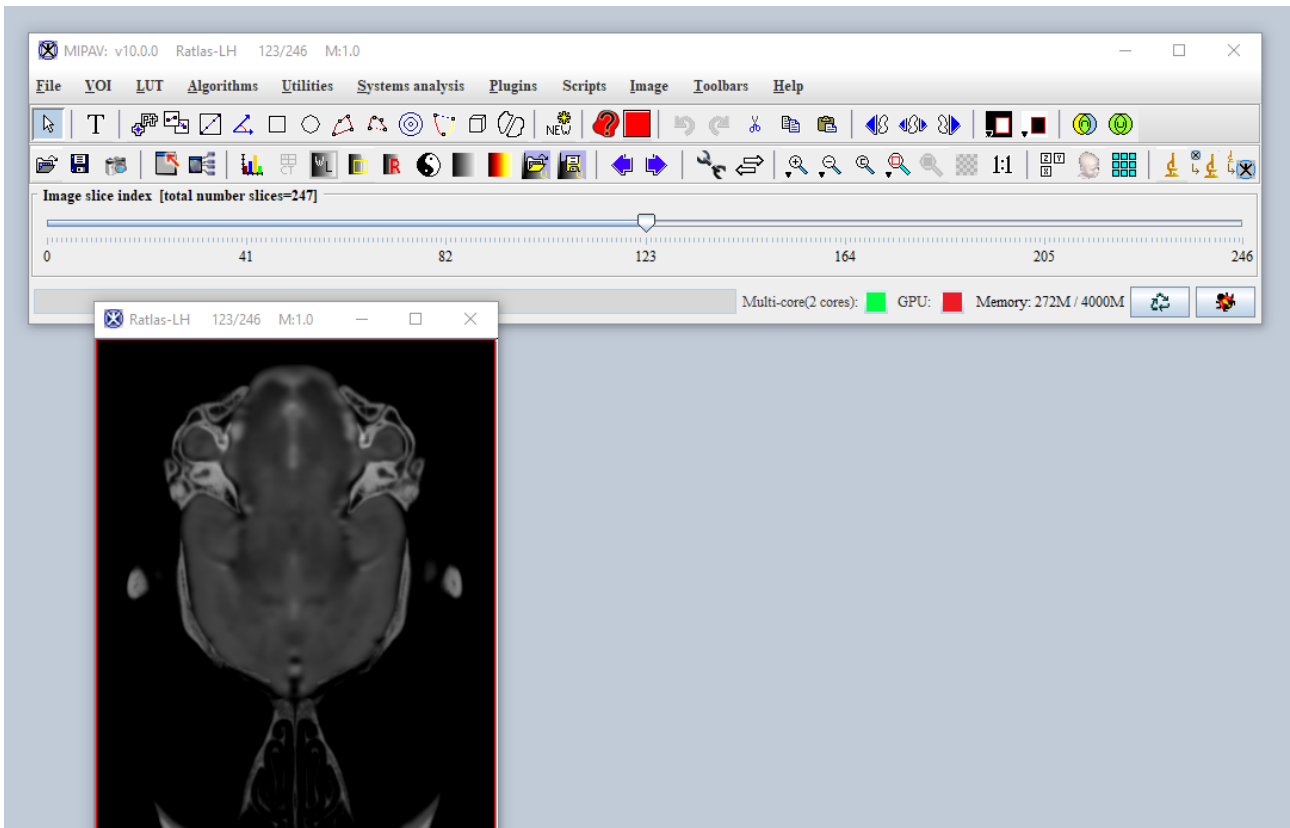


Figure 4 Opening Ratlas-LH in tri-planar view.

When the tri-planar view opens (**Figure 5**), you may find it easier to use if you increase the tri-planar window to full screen.

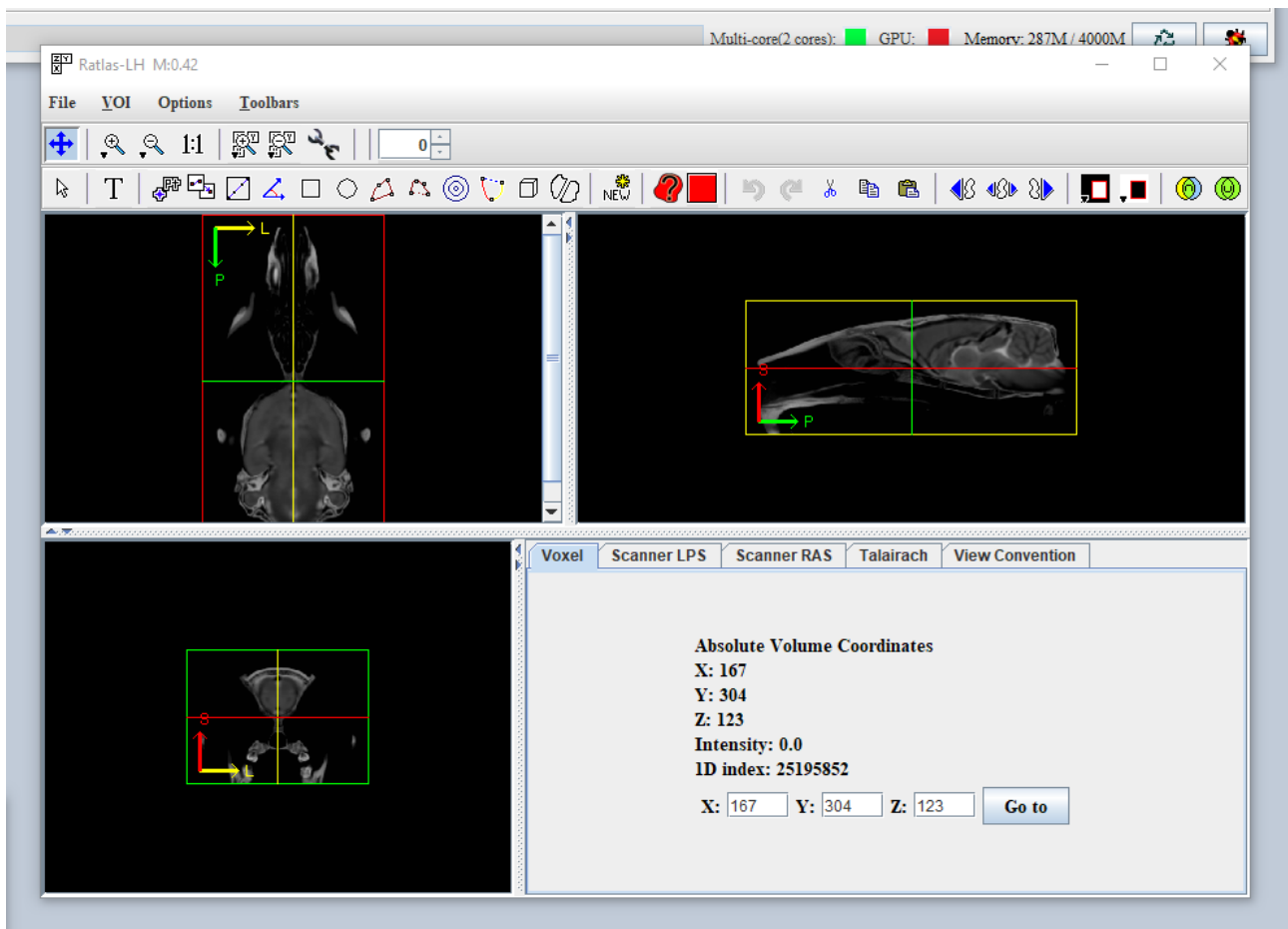


Figure 5. Ratlas-LH in Tri-planar view

When the tri-planar window is open, use the magnification icons in the tool bar (highlighted by the red circle in **Figure 6**) to increase or decrease the displayed size of the atlas image. The position of the image in the window can be adjusted with the slider bars.

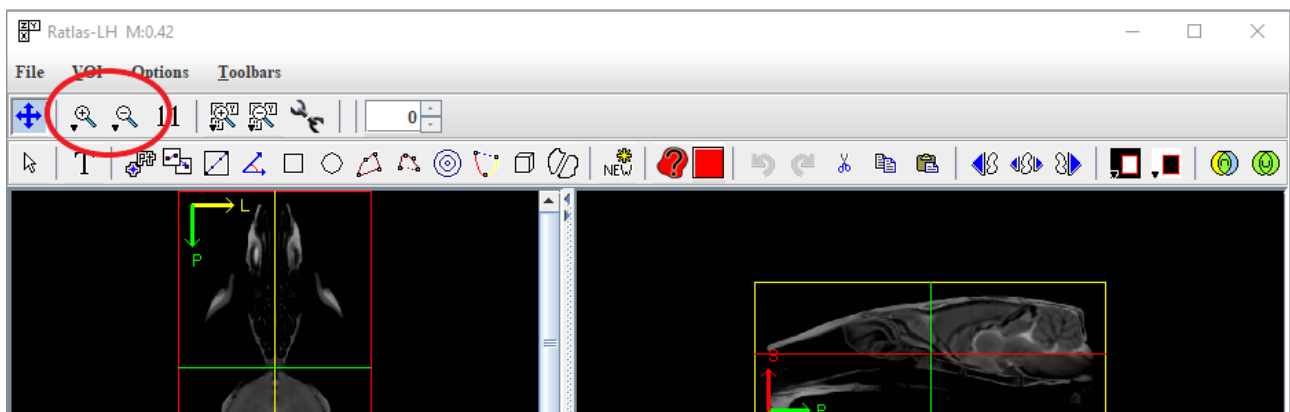


Figure 6 The global magnification buttons in MIPAV

Navigating around the atlas

You can scroll through the images in each plane using the mouse wheel.

By holding down the left mouse button in any of the three display panes you can use the mouse to move the crosshairs to a region of interest. Note that when moving the crosshairs in the selected

window, the images in the other two panes change in order to show the slices where the cross hairs are located.

Finding coordinates relative to bregma

To be able to read the correct coordinates, it is necessary to change the coordinate type to scanner RAS. Select the Scanner RAS tab that is highlighted in blue in **Figure 7**.

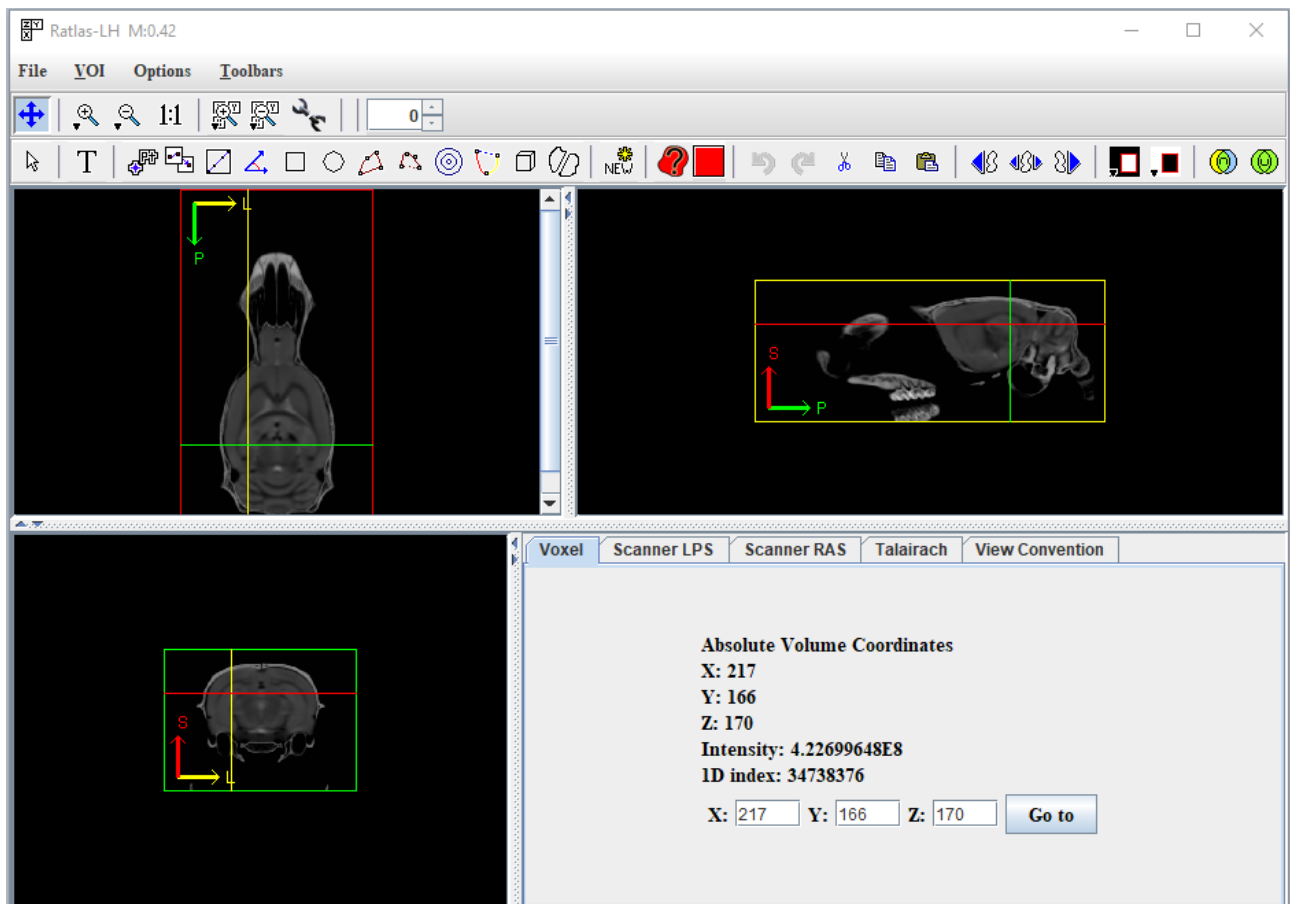


Figure 7 Using the correct coordinate system in Ratlas-LH

Finding coordinates from Ratlas-LH can be carried out by using the mouse to position the crosshairs on the region of interest making sure that they are aligned correctly in all three planes. The coordinate values for the **Left-Right** (also referred to as the medio-lateral) direction, **Posterior-Anterior** direction and the **Inferior-Superior** (also referred to as the dorso-ventral) direction are read from the three boxes marked **L-R**, **P-A** and **I-S**, respectively. The values in the boxes are in millimetres from bregma.

Alternatively, you may wish to find a brain region from pre-existing coordinates, such as those quoted in a paper. This is carried out by entering the appropriate values into the three boxes (L-R, P-A and I-S) for each coordinate value and then clicking on the Go to button (see **figure 7**).