

Instruction manual

The digital atlas can be operated with Windows XP, Windows Vista, Windows 7, or Mac OS X 10.5 and higher. The minimum requirements are a CPU (Core2 Duo 2.0 GHz or greater), a GPU (OpenGL compatible), more than 4 GB memory, and 20 GB of free space on the hard drive for data storage.

To download the Brain Atlas data files and Viewers(2D and 3D browser)

1. Go to the following URL:

http://brainatlas.brain.riken.jp/marmoset/modules/xoonips/listitem.php?index_id=66

2. Download the following three files to your computer (downloading may take several minutes).

1) [Common Marmoset Brain Atlas - Neurosurgical plane ver. 3.1 \(sqlite\)](#) (size: ca. 4G)


2) [Common Marmoset Brain Atlas - Radiological plane ver. 3.0 \(sqlite\)](#) (size: ca. 3G)

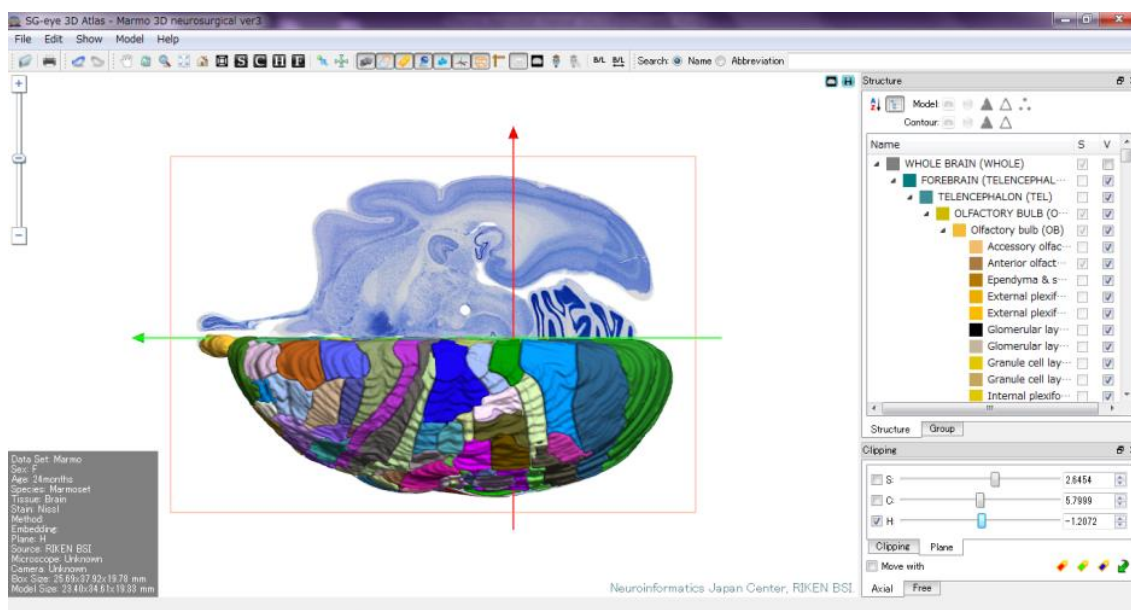
3) [Brain Atlas Viewer](#) (size: 63.5 MB)


3. Open the downloaded “Brain Atlas Viewer” folder and install by choosing the appropriate program for your operating system (SGeyeAtlas for Mac, SGeyeAtlas x32 for 32-bit Windows, or SGeyeAtlas x64 for 64-bit Windows). The folder “SG-eye v3.7” will then be installed in either your Program Files (Windows) or Applications (Mac) folder. The “SG-eye v.3.7” folder includes the “SG-eye 3D Atlas” and “SG-eye Atlas” programs.

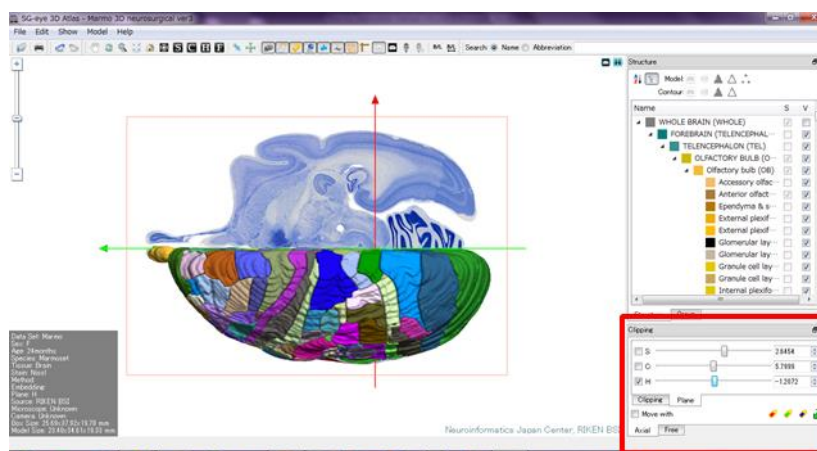
To operate the Brain Atlas Browsers

(1) To operate the “SG-eye 3D Atlas” for 3D images:




1. Run the “SG-eye 3D Atlas” program to open a blank menu page.
2. Click the “Open” icon  and open a downloaded file (“Marmo 3D neurosurgical.sqlite” or “Marmo 3D radiological.sqlite”). These files are located in the Downloads folder. The default page will then appear. This page shows a dorsal view of the reconstructed common marmoset brain (rostral is on the left.).

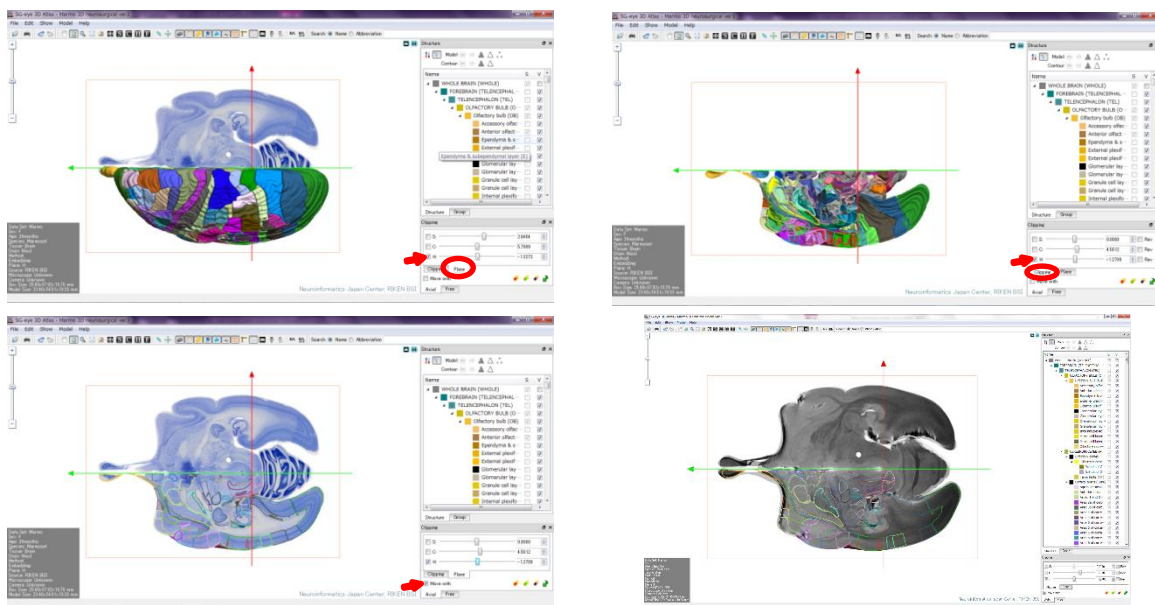


3. Use the mouse and the buttons  on the tool bar to move the images. The functions of the buttons will appear in the tooltip window. There are also S, C, H, and F buttons. Several clicks of the S (or C, H, F) button will return the image to the default position.
4. Sectional views can be obtained from the reconstructed 3D atlas by manipulating the bottom right corner panel.

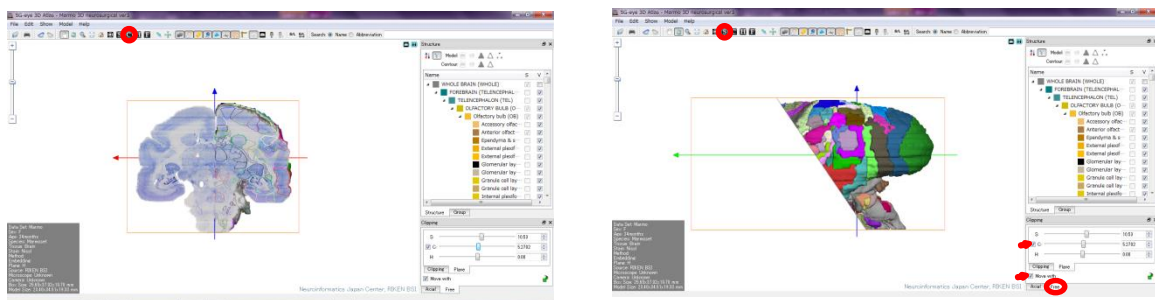



(2) To obtain three representative (coronal, sagittal, and horizontal) planes:

1. Click the H button several times to obtain a horizontal view of the image (each click of the H button results in a rotation of 90 degrees). This will result in a series of horizontal sections. Sagittal and coronal sections can also be obtained in a similar way by using the S or C buttons. The model can be rotated by clicking the rotate button  together with the mouse.
2. In the bottom right corner panel (refer panels below), click the boxes labeled “H” and “Move with” in the “Clipping” and “Plane” modes in the “Axial” tab. These modes can be activated by clicking the tags with their names. The numbers indicated in the boxes to the right of the sliders are the distance in mm from the interaural zero line. 3D image or outlines can be removed or added by clicking the buttons . MR images can also be added by clicking the button .






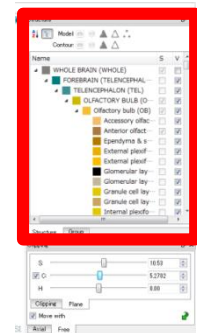
3. Nissl sections, 3D images, MRI planes, and outlines can be visualized in any combination in the “Free” tab in the



bottom right corner panel. This requires clicking the appropriate buttons and clicking the boxes labeled “C” and “Move with” to move the sliders (C, S, H, or various combinations) in the appropriate direction. Click the button  to reset the image.


4. Hierarchical brain structure compositions are indicated in the middle of the right panel. Representative structures with unique colors are shown in the outlines.

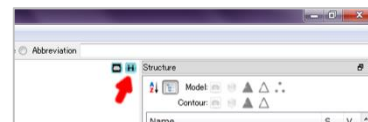
5. Stereotaxic coordinates can be obtained by using the button  . The images can be freely moved with the rotate button  and sections can be visualized in the “Axial” or “Free”



tabs of the bottom right control panel .


6. To change files, click “File” and then “Open” to choose a different data set.

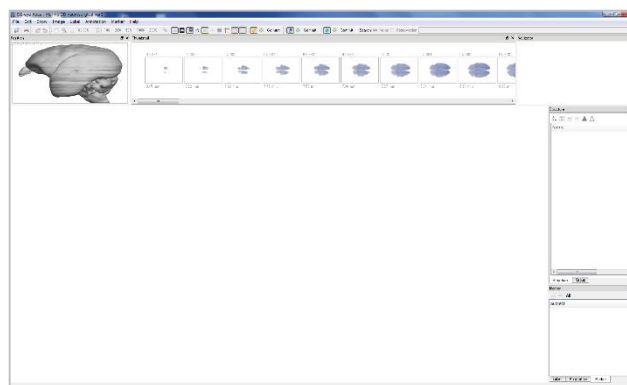
7. If you are going to 2D images, click the button .



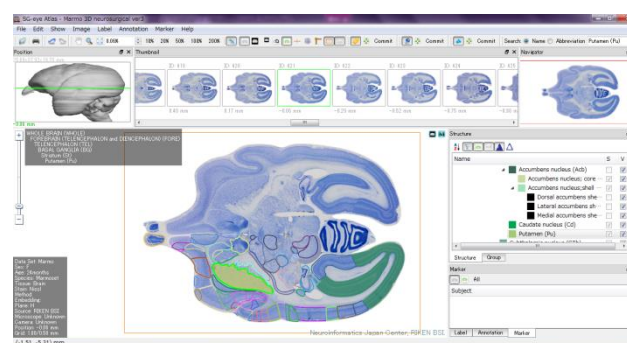
(3) To operate the “SG-eye Atlas” for 2D images:


1. Run the “SG-eye Atlas” program to open a blank menu page.



2. Click the “Open”  icon and open a downloaded file (“Marmo 3D neurosurgical.sqlite” or “Marmo 3D radiological.sqlite”). These files are located in the Download folder. The default page will then appear. This page shows a 3D model of the common marmoset brain (rostral is on the left) in the “Position” window, thumbnails of Nissl horizontal images with 230 μ m intervals in the “Thumbnail” window (middle), and a navigator window (right, after specify the section) . The compatible images in the radiological horizontal plane (inlet) were reconstructed from the 3D model.






3. Each image can be loaded in the main window (click one of the serial sections or 3D model in “Position” window) with annotations for the brain regions delineated with each color same as indicated in the structure list (right).




(right). Use the “Select structure” button  to specify the regions appeared. Structure name will be indicated in the upper left corner of the main window. To localize regions with a filled color mode and a line color mode, check

regions of interest in the structure list together with button  and button , respectively. The magnification of the images can be changed by moving the slider in the upper left corner of the main panel.

This is the default page if you click the button  in “SG-eye 3D Atlas” browser.

4. Familiarize yourself with the functions of the active buttons (the functions will appear in the tooltip window). For example, brain structures can be localized in the loaded image by clicking the button (“Switch to structure display” button ). Structural information of selected brain area is shown upper left in the main window, by the cursor pointing onto the regions of interest after clicking the button (“Select structure” button ).

5. If you are going to 3D images, click the button .

