NEUROXIV USER INSTRUCTION

neuroXiv

2022-05-31

v1.3

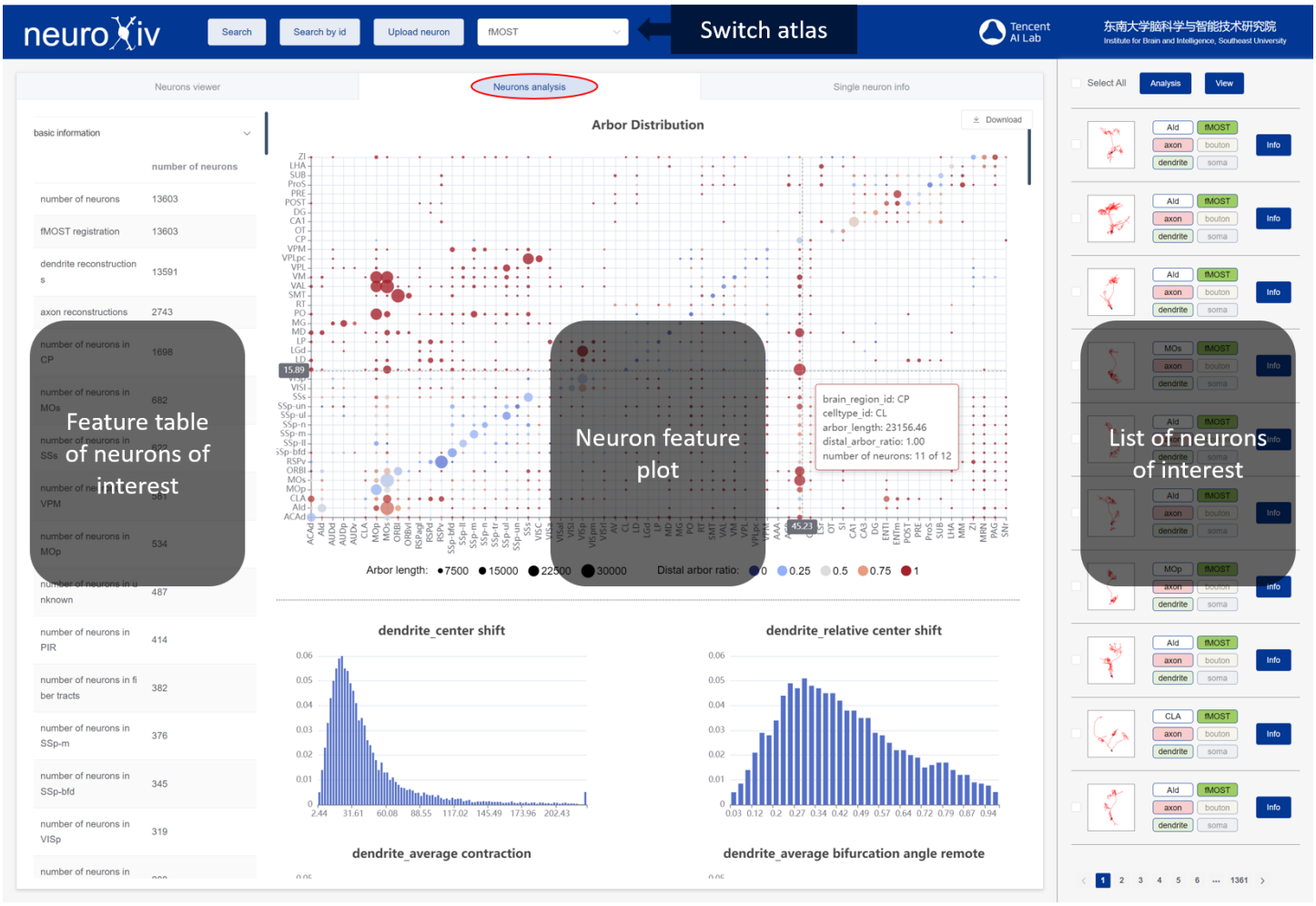
Summary

In neuroxiv.net, users can:

- Search neurons of interest by neuron anatomy, morphology, and connectivity patterns.
- Explore morphology and connectivity features of neurons of interest.
- Upload neuron (swc file or eswc file) and calculate the morphology features.
- Search similar neurons.
- Explore the 3D visualization of neurons.
- Explore the cross species atlas.

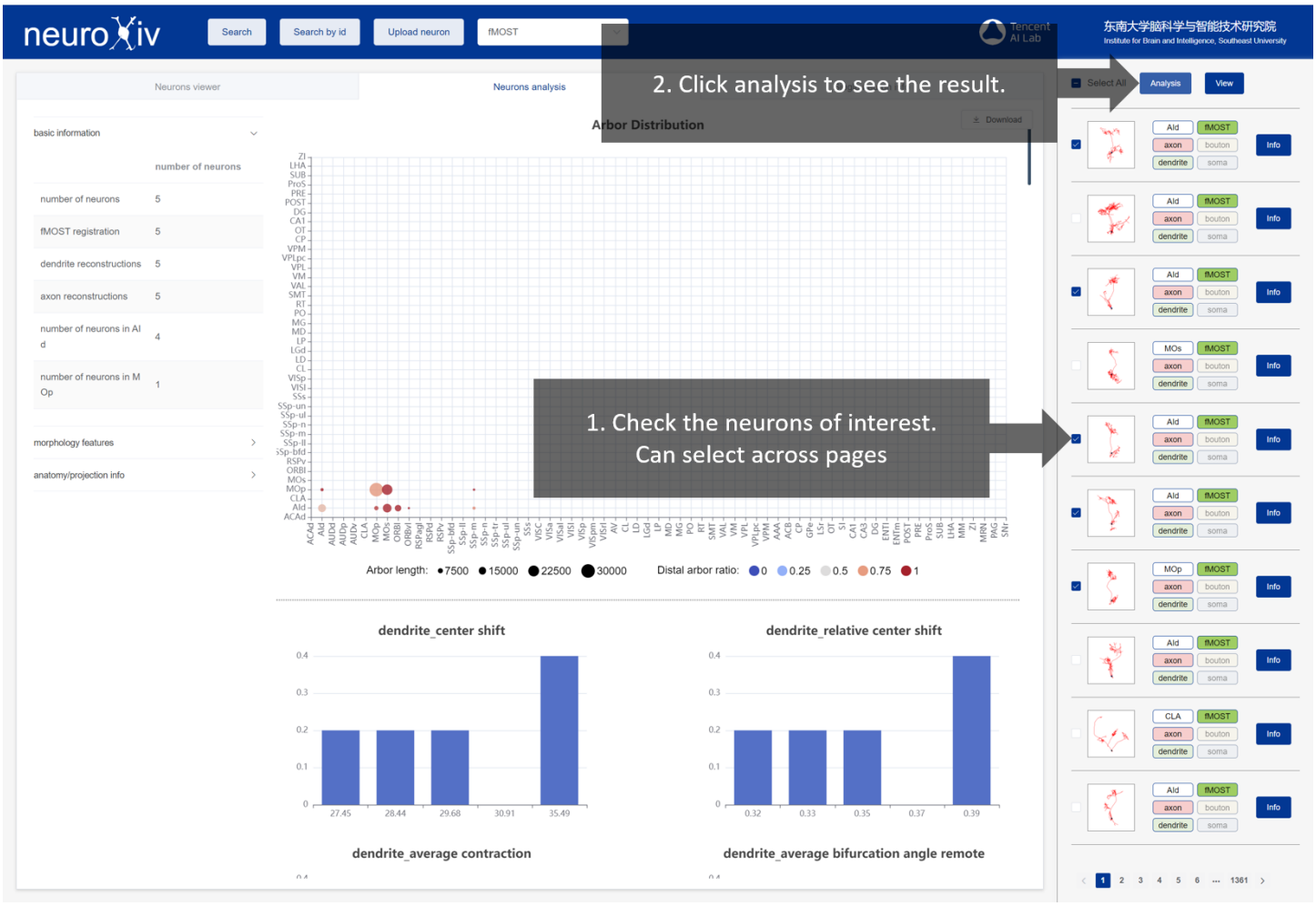
View stats of neuron of interest

In the neuron analysis panel, user can view the stats of neurons of interest. The neurons of interest are listed on the neuron list panel on the right.



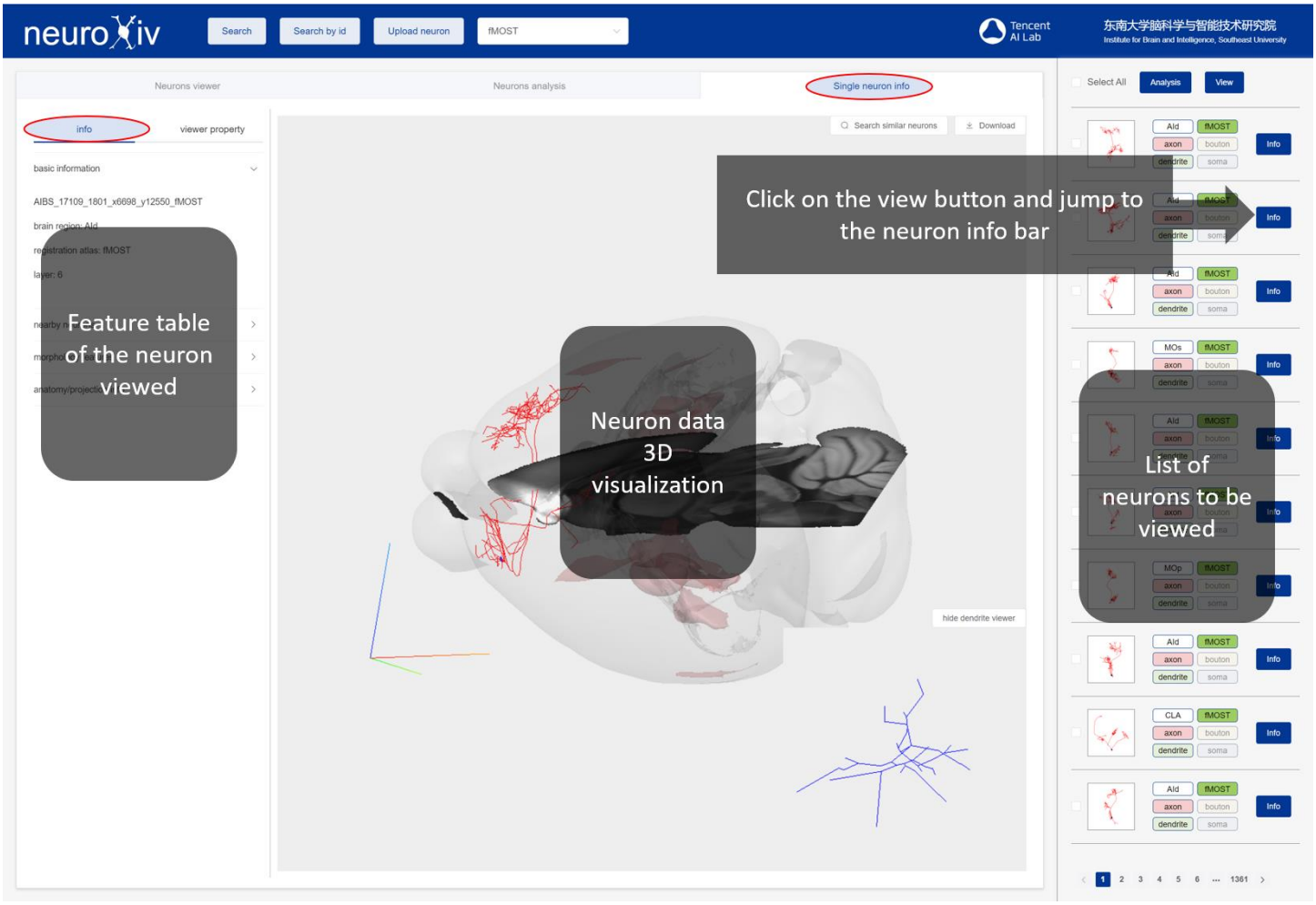
Select neurons of interest to analyze

User can select neurons from the list to analysis.



View information and visualization of a neuron

In the neuron list, users can see basic information of each neuron. Detailed information and 3D visualization of each neuron can be viewed by clicking info button in the list.



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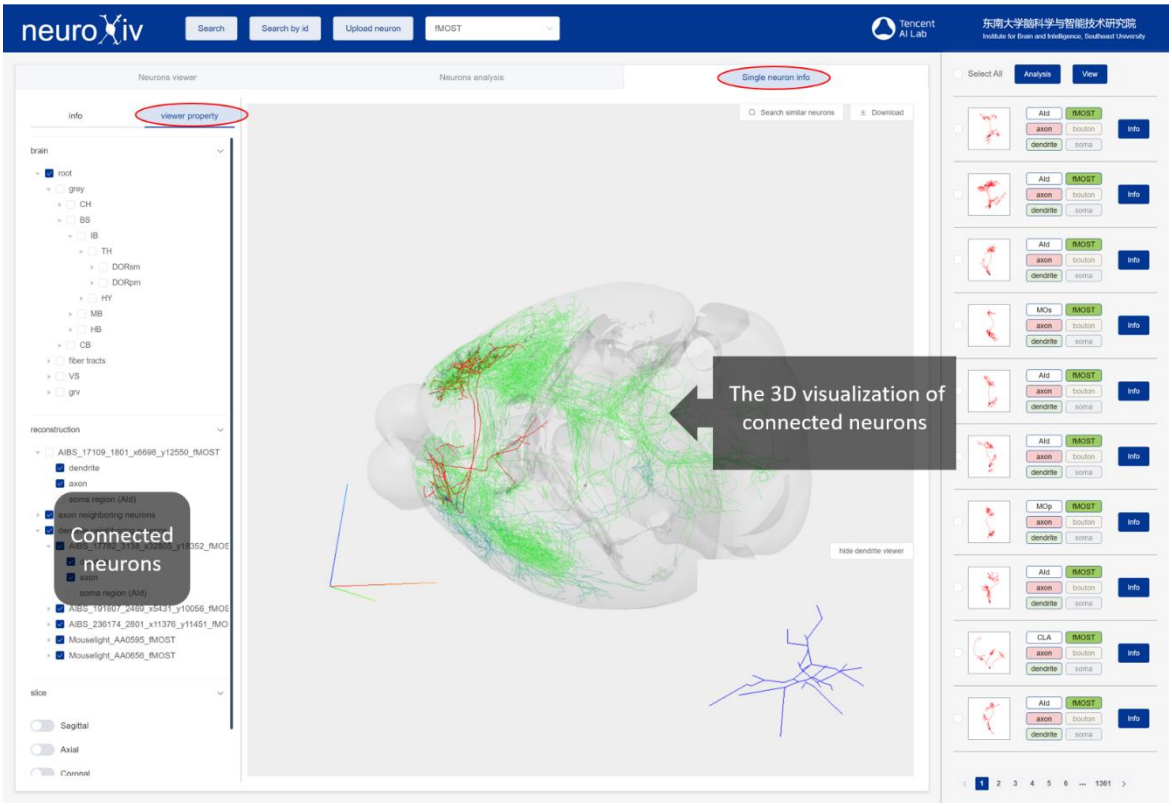
User can control the 3D display of the brain regions, neurons, as well as the slices of the brain in the left column.

User also can rotate, scale, and pan the objects freely in the middle region (control object rotation with the left mouse key, use the right mouse key for object translation, and zoom with the mouse wheel).

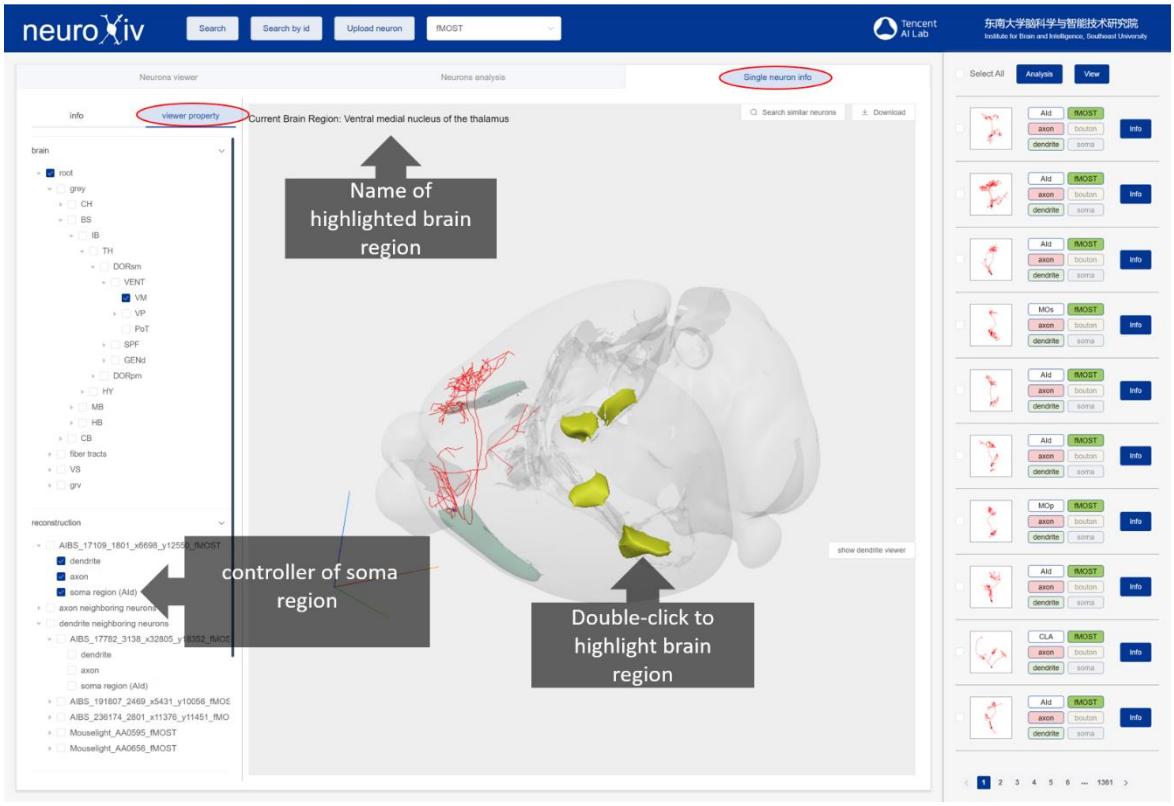
In the lower right corner, user can rotate, scale, and pan the dendrite of neuron.

User can observe the 3D visualization of the neurons connected to the viewed neuron.



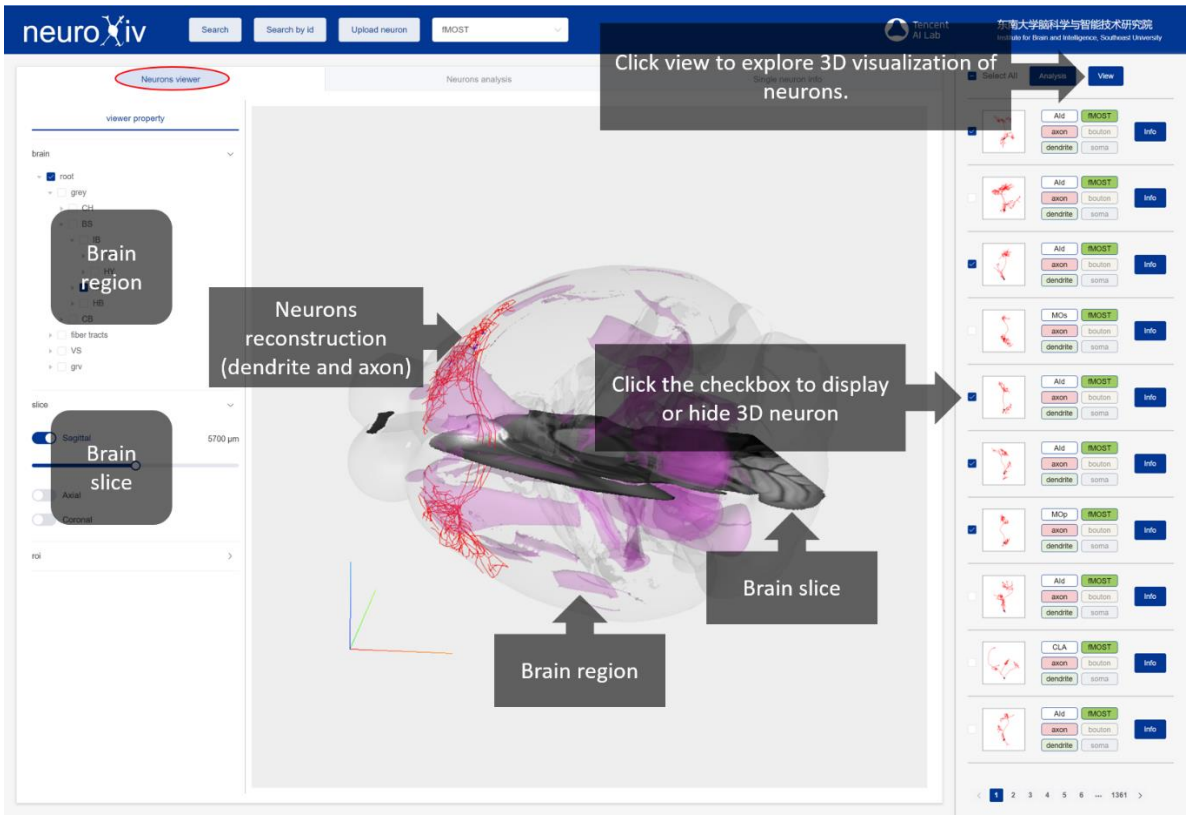
User can control the 3D visualization of soma region.

User can double-click the left mouse button to highlight a brain region.

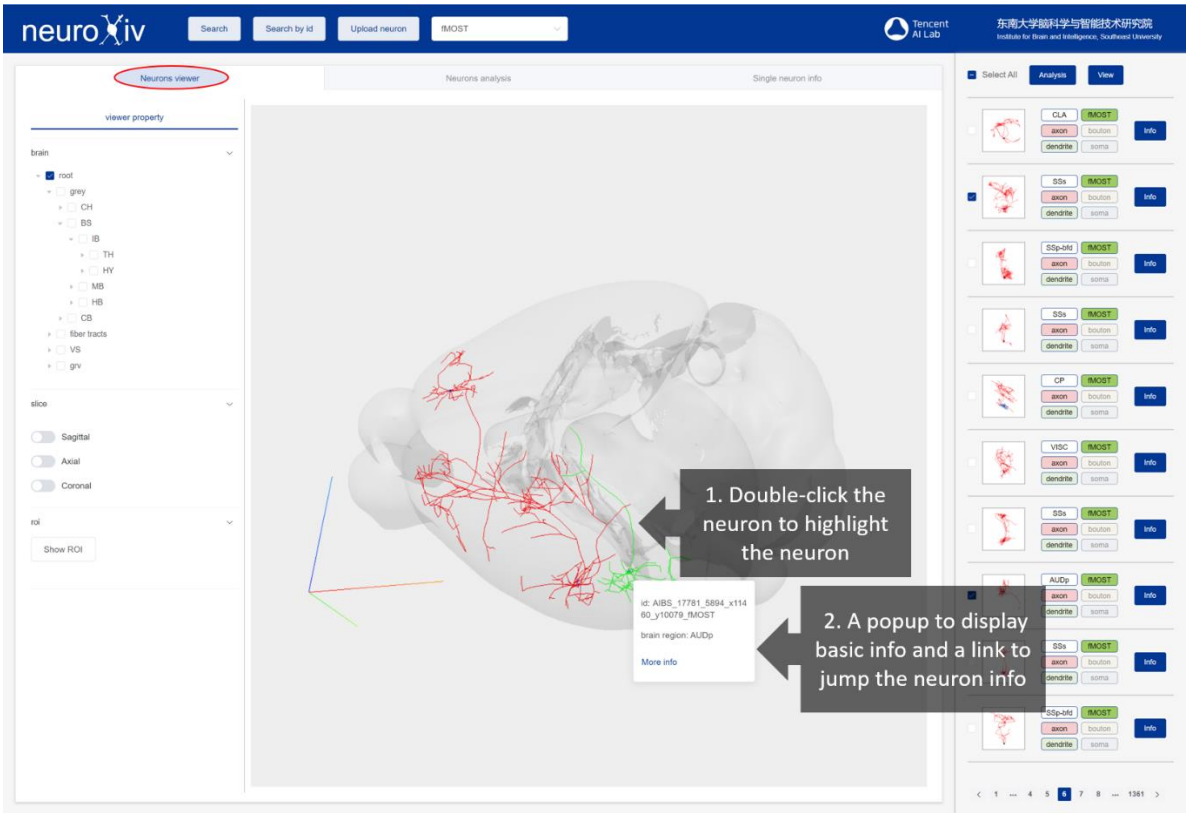


Select neurons of interest to explore 3D visualization

User can select neurons from the list to view the 3D visualization

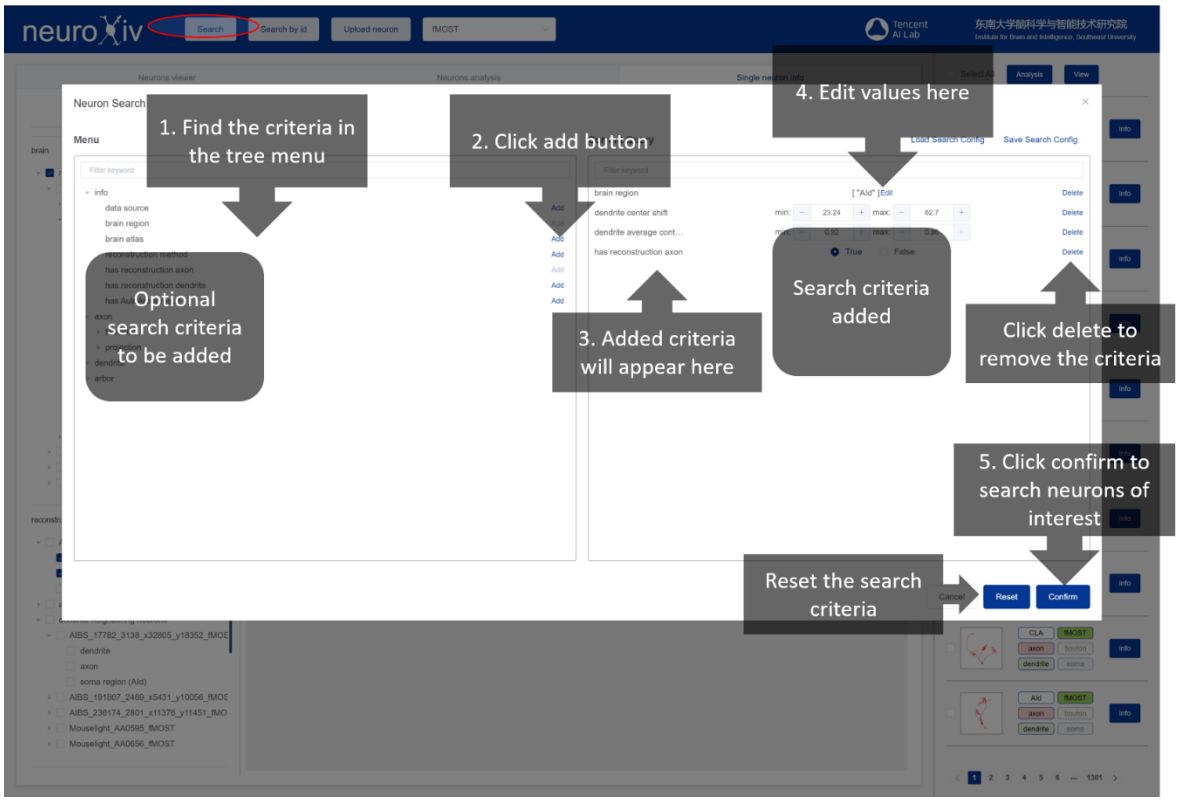


User can select a single neuron from 3D viewer to see the info

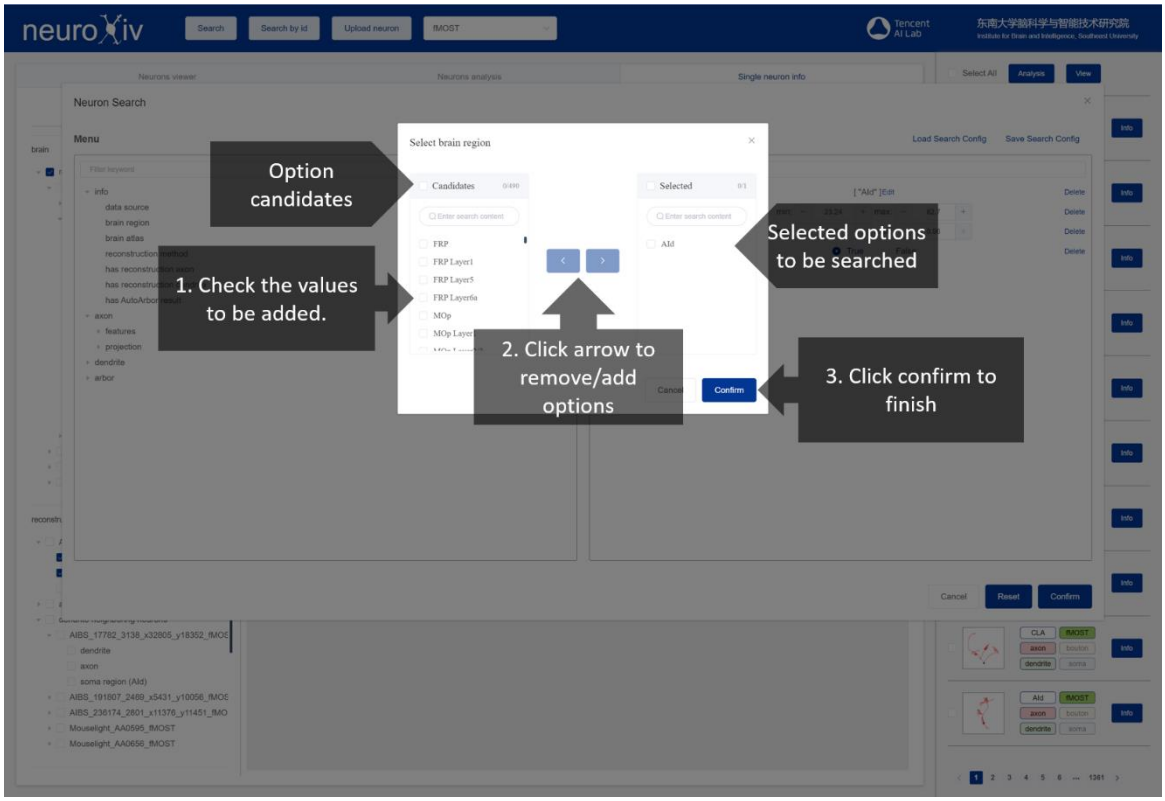


Search neurons of interest

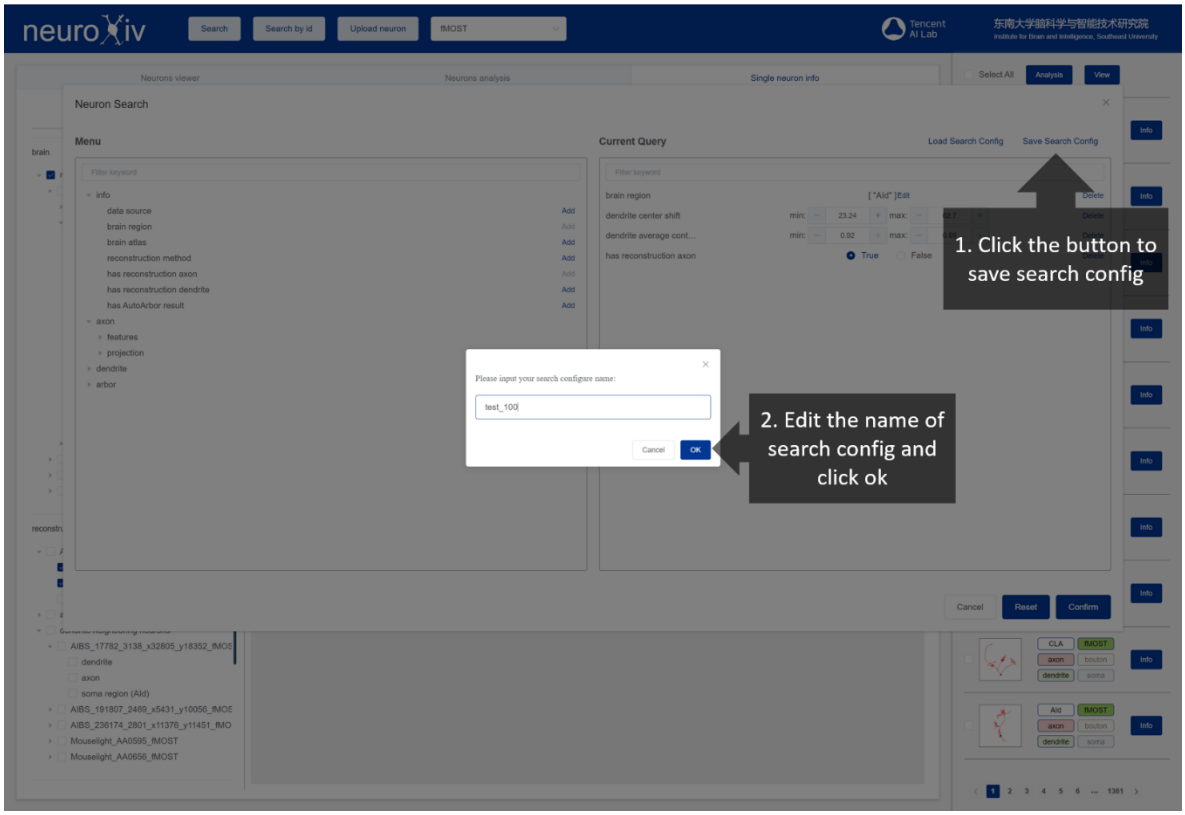
Click “search” button on the top to open search panel. User can search for neuron that meet the criteria they set.

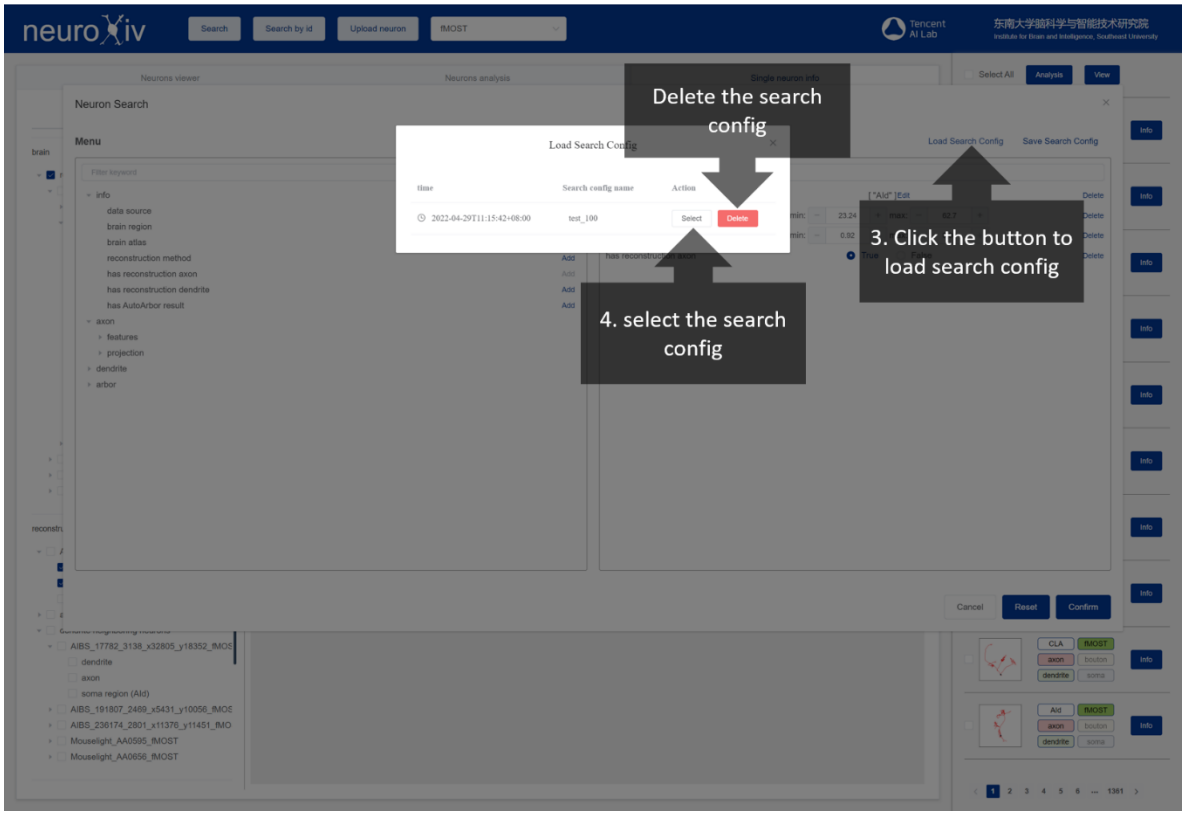


For categorical criteria like brain region, user needs to select from a given list of options.



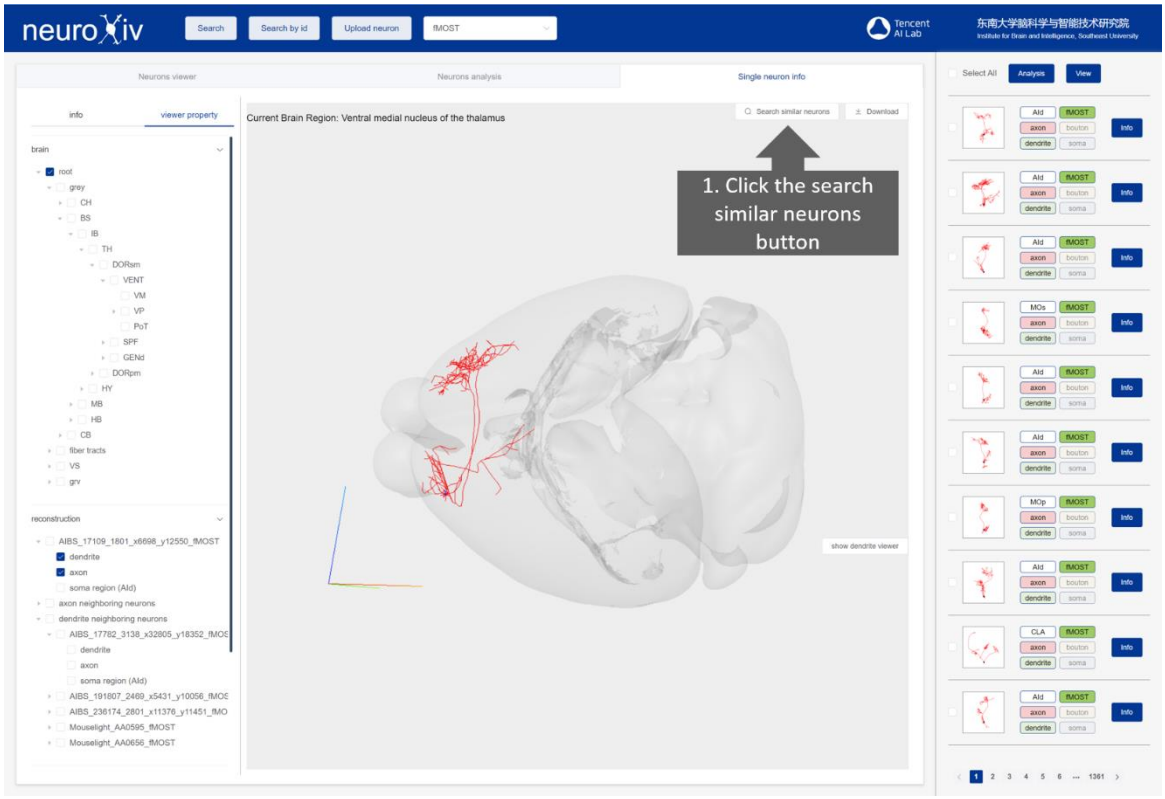
User can save and load their own search criteria.

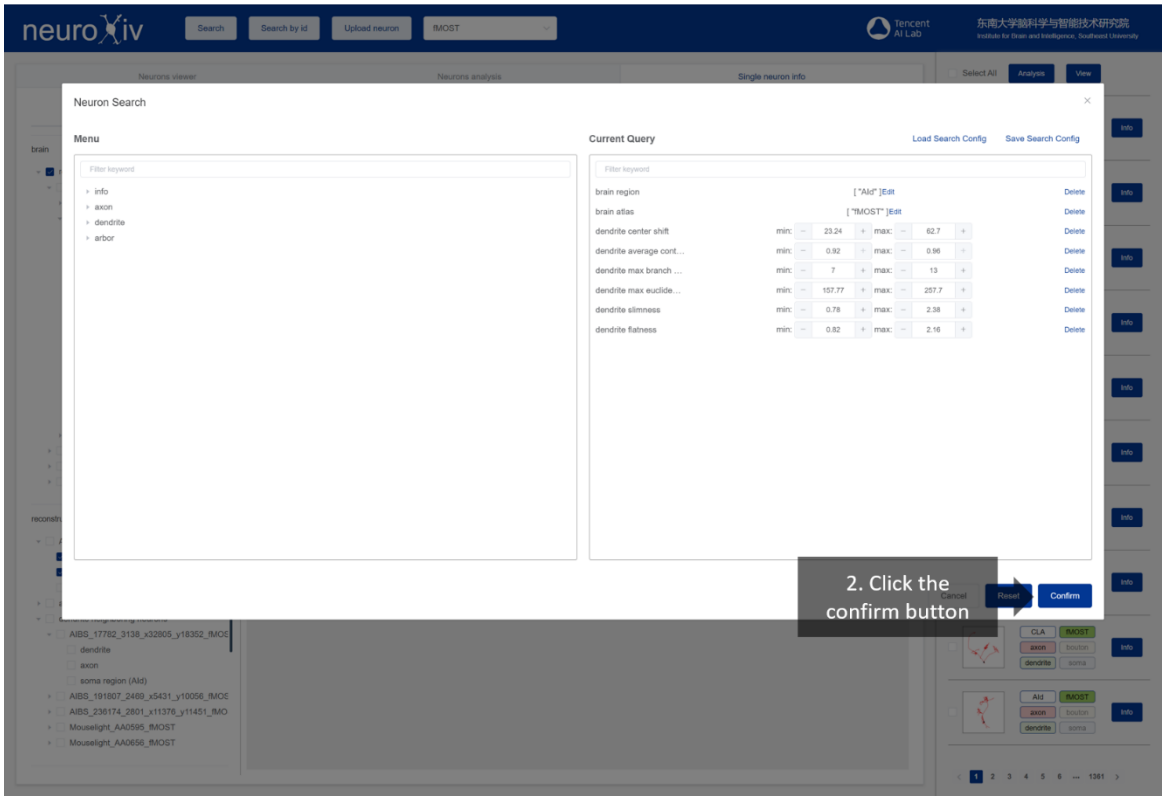




Search similar neurons

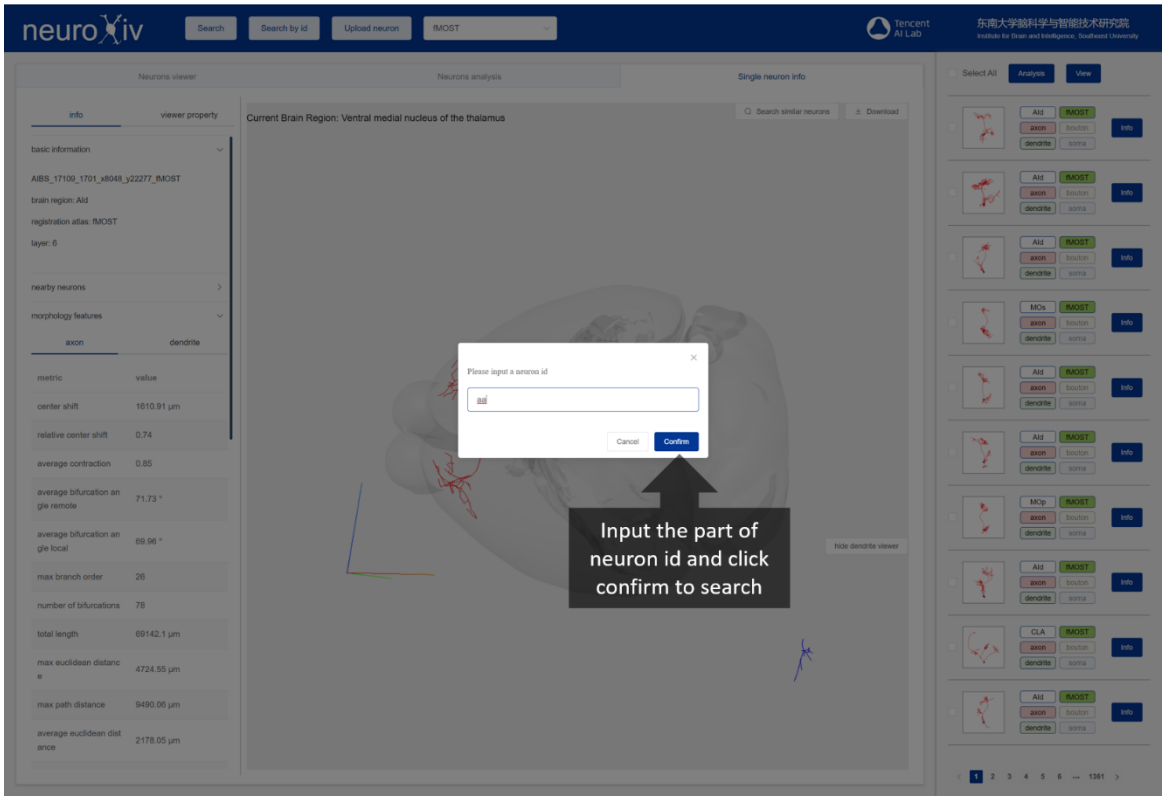
Click “search similar neurons” button in the single neuron info bar to open search panel. User can search similar neurons of the viewed neuron.

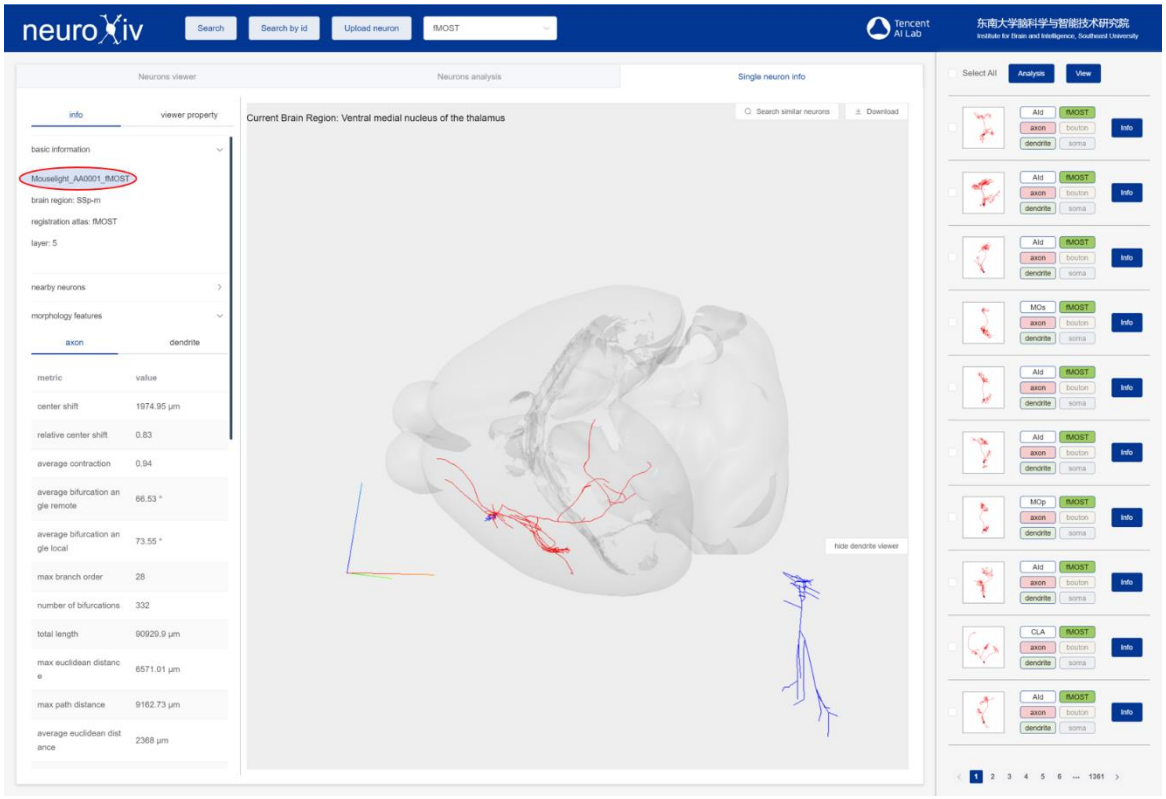




Search neuron by id

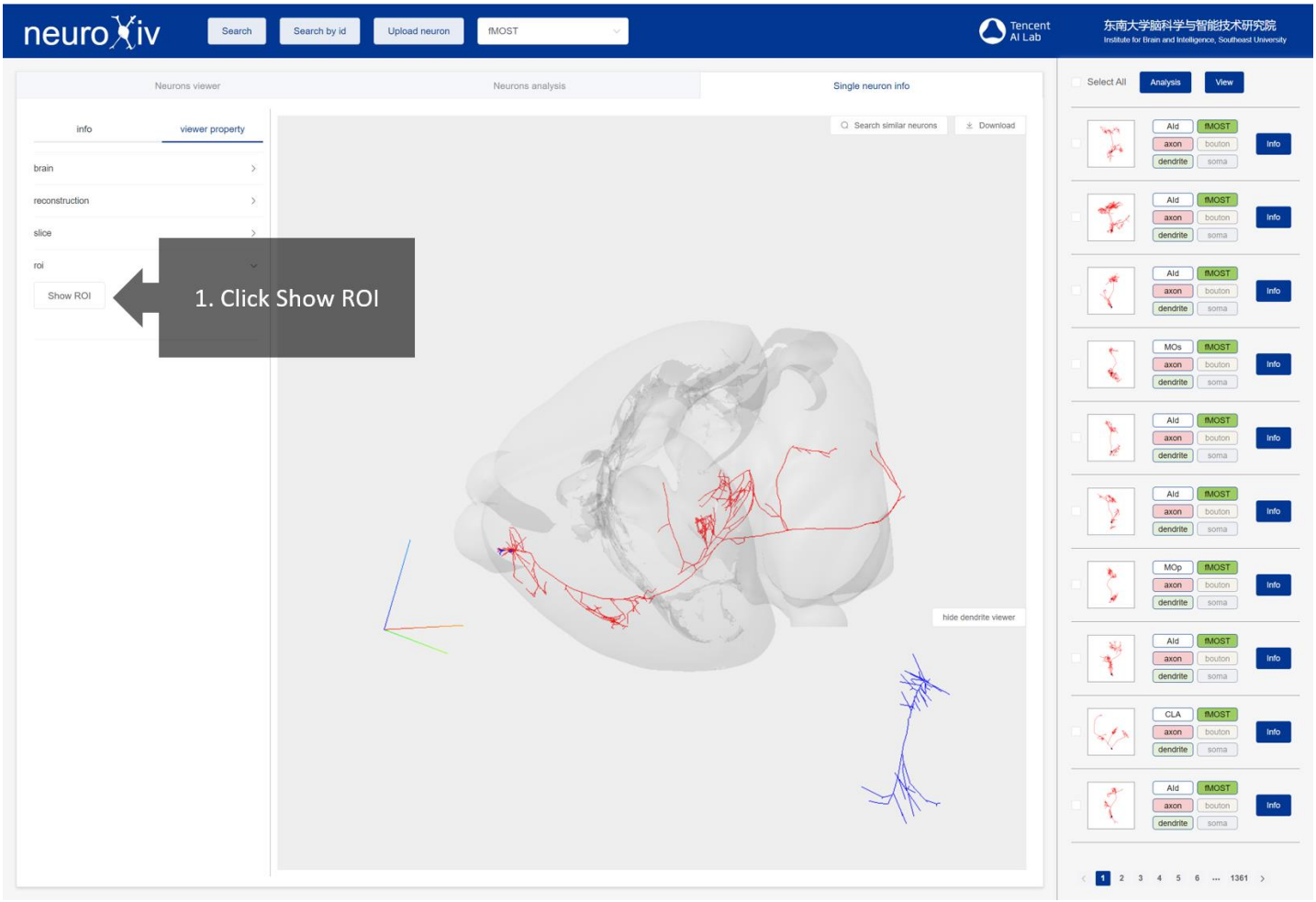
Click “search by id” button on the top to open search panel. User can search for a neuron based the neuron id and jump to single neuron info bar.





Search neurons based ROI

Click “Show ROI” button of “roi” in the Neurons Viewer bar or Single neuron info bar. User can search neurons based ROI.



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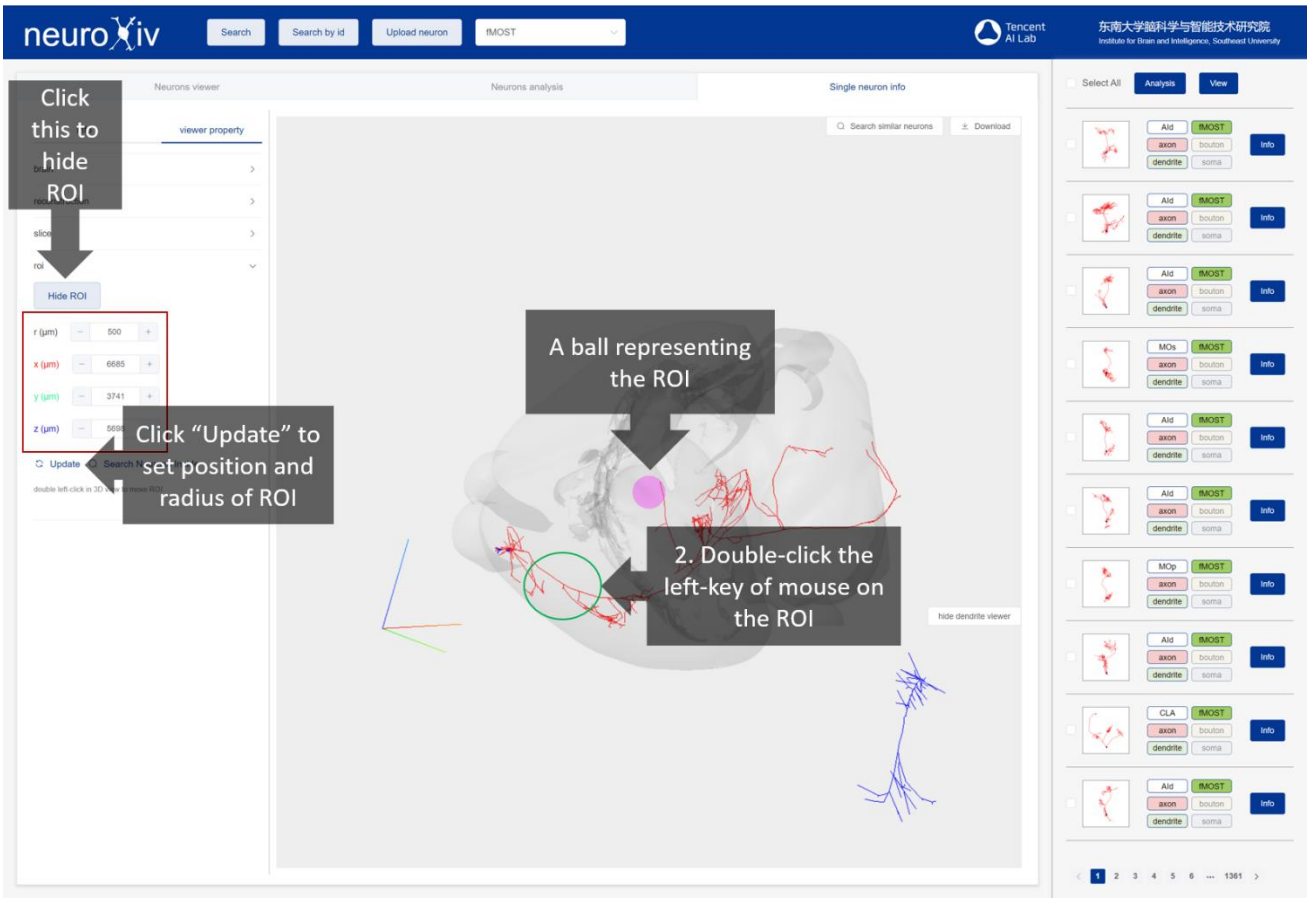
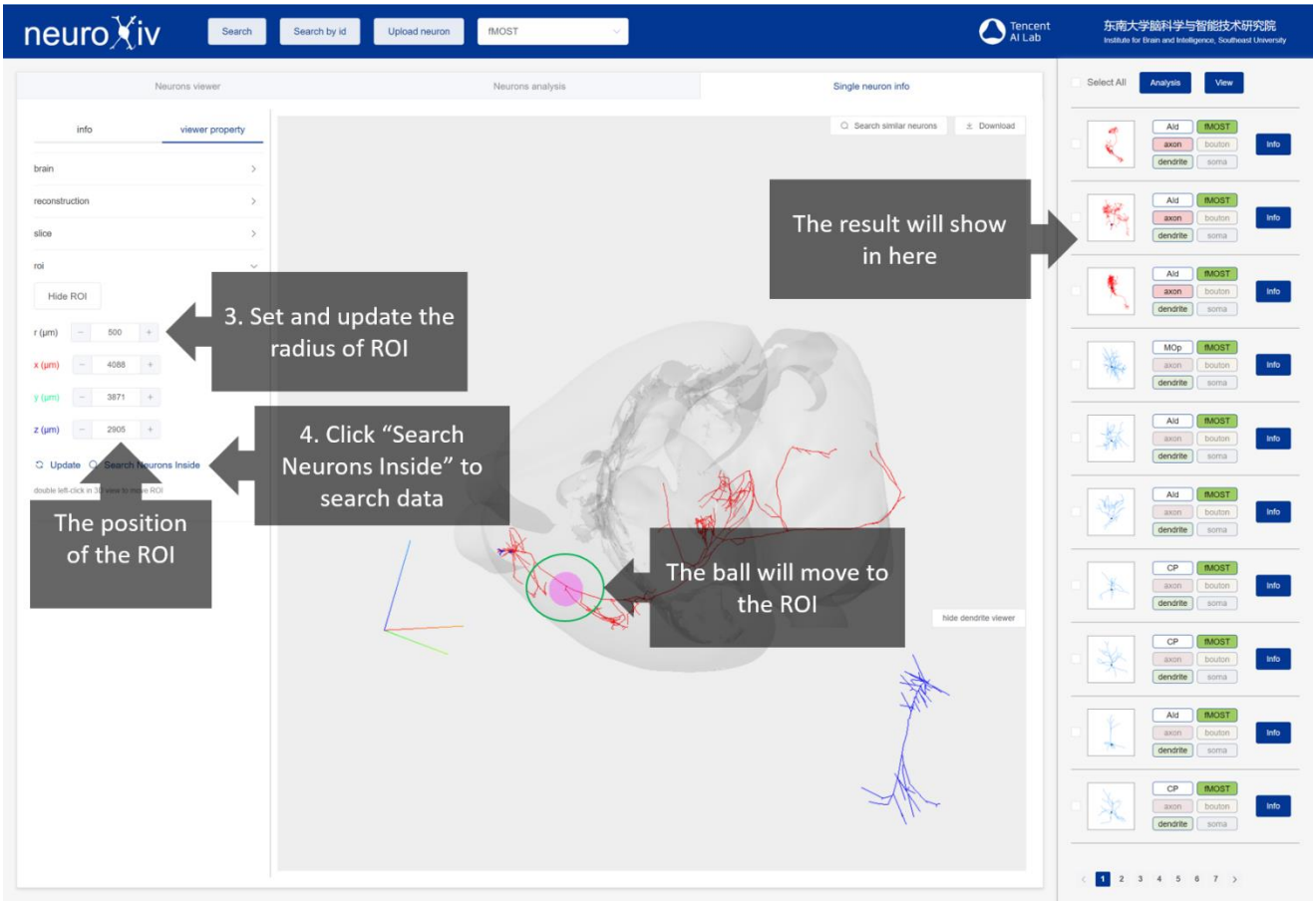
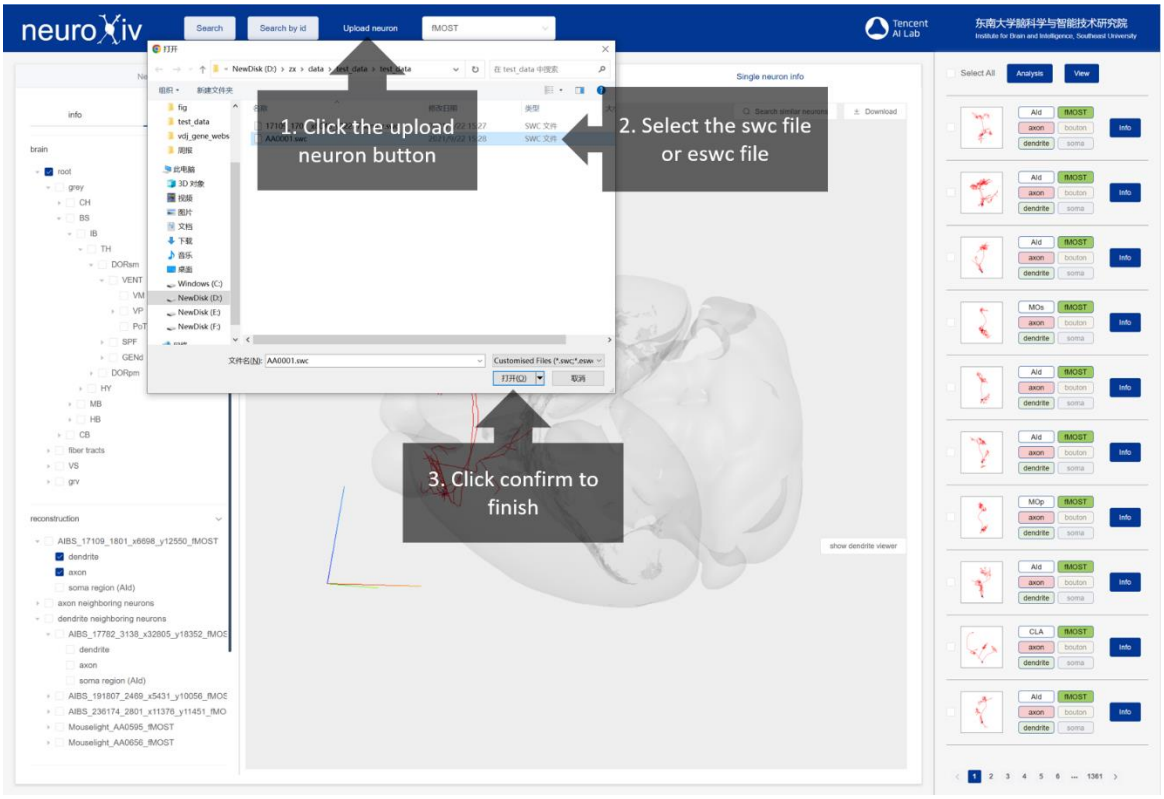
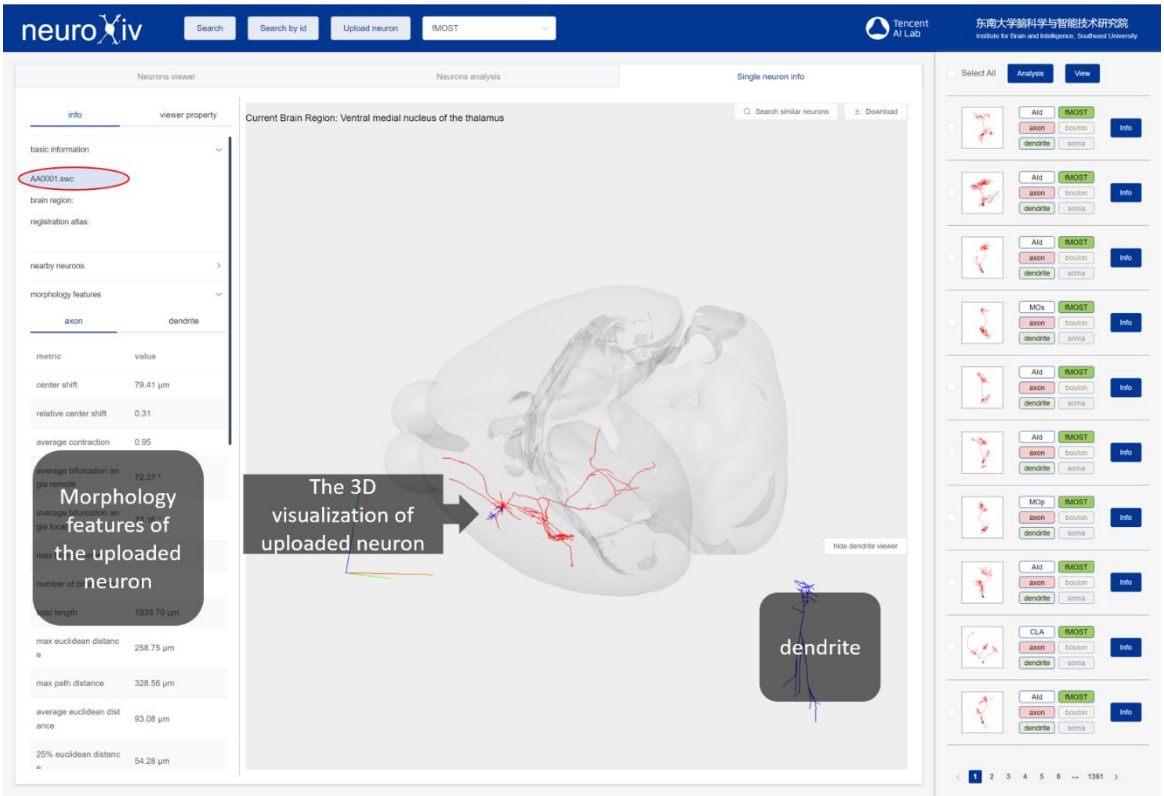




Upload neuron

Click “upload” button on the top to open search panel. User can calculate the morphology features and explore the 3D visualization of uploaded neuron.



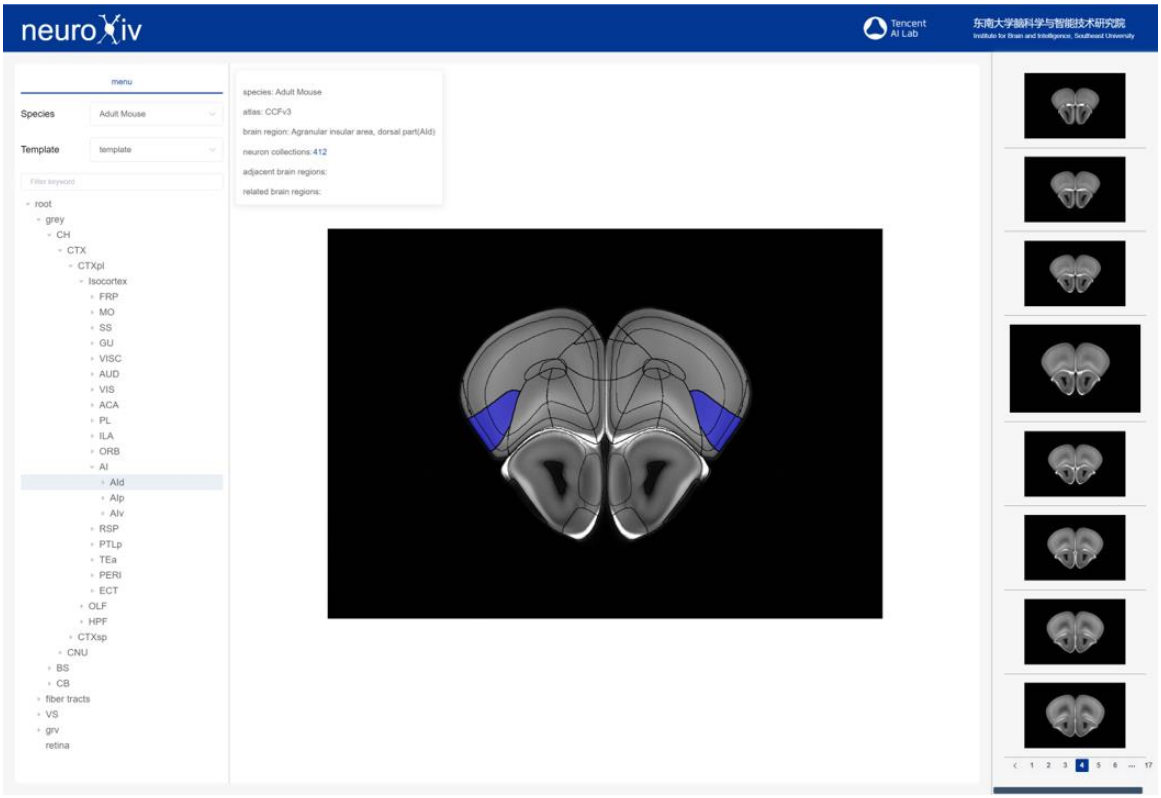
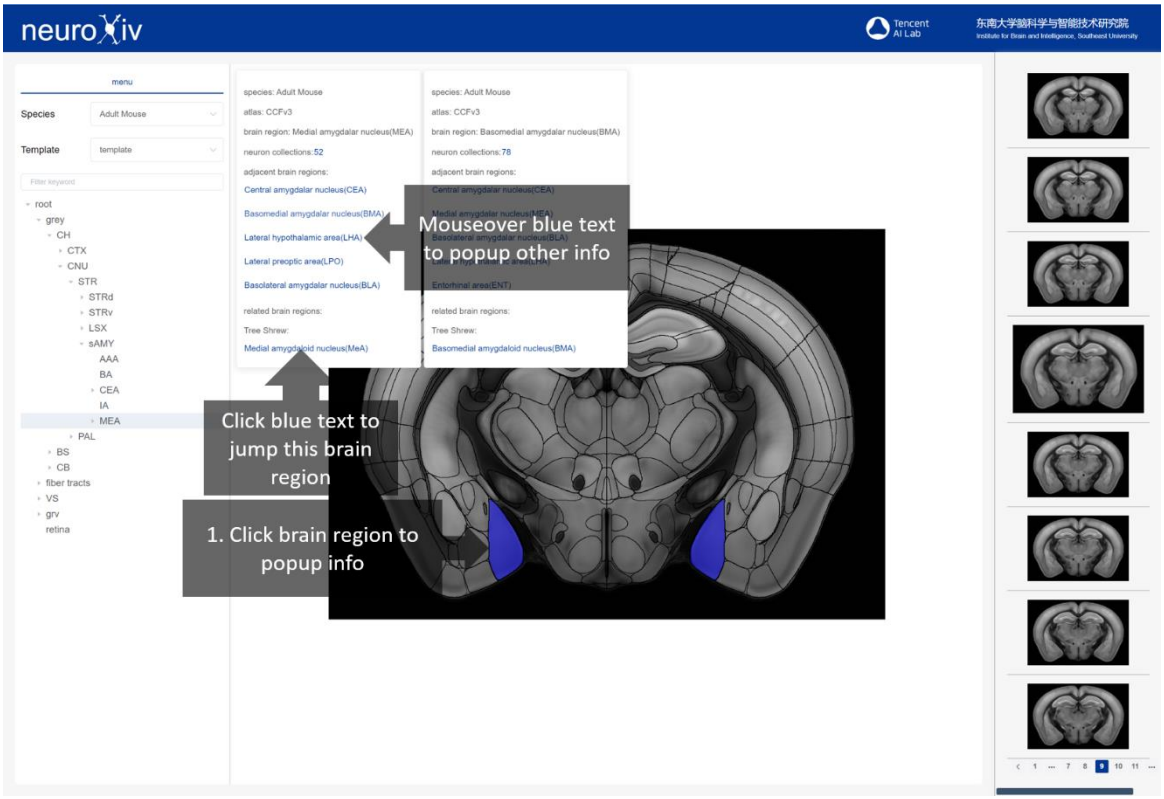


Explore the cross species atlas

Click brain region of neuron in neuron list to jump cross species atlas web page.

Click the number of neuron collections to jump neuron web page.

Click the middle part of the brain region or the left brain region tree structure to display the information of the brain region.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