

Before you start

- Trace the trees.
- To display the panel, click the **Synapse** button.

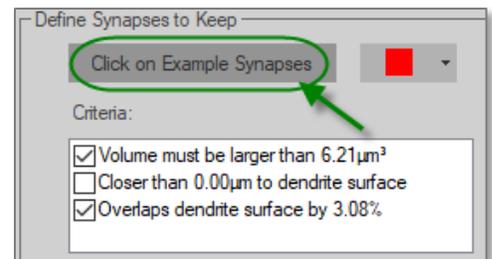


Detecting synapses

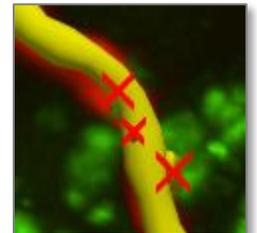
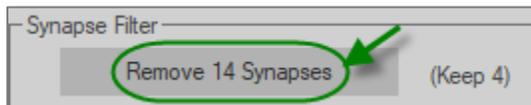
1. Under **Image channels**, select the correct channels.
2. Click **Detect All** for an initial detection with the default detection settings. Automatic detection may take a few seconds.
3. Adjust the **Detection settings** to improve the detection.
 - **Sensitivity:** A lower value may result in fewer synapses detected.
 - **Surface clearance:** Distance from the traced external boundary of the process to the proximal edge of the punctum.
If the checkbox is NOT checked, the program filters out all the puncta that are not in contact with the traced branch.
Use a negative clearance to include synapses that may fall outside of the surface clearance (may apply when you have spines on the branch).
 - **Outer range limit:** Distance from the traced external boundary of the branch to the distal edge of the punctum.
4. Click **Detect All** to detect again with the new settings.

5. Use a representative synapse to re-define detection criteria:

- a. Under **Define Synapses to Keep**, click **Set Criteria from Examples**.
- b. Click a synapse in the image. The criteria are updated based on the representative synapse.

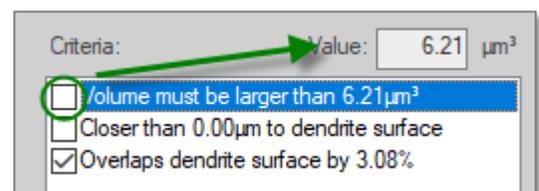


- c. Objects that don't meet the criteria are marked with an X. Under **Synapse filter**, click **Remove Synapses** to discard the objects marked with an X.



- d. Optional:

- To ignore a criterion, uncheck the corresponding box.
- To modify the value of a criterion, click the criterion then enter a new value in the field.



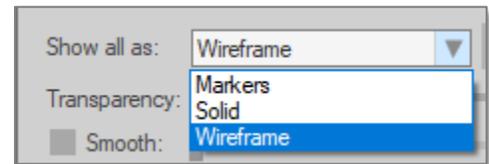


Now, let's explore the editing options. First, click the **Edit** button to access the **Edit synapses** panel.



Changing display type or color

1. Click the **Select All** button (only applies to all synapses).
2. Select a new option from the **Show as** or **Color** drop-down menu.



Increasing transparency or smoothness

1. Click **Select All** or click individual synapses.
2. Smoothness: Check the box to enable the slider.
3. Move the slider.

