

Supplementary file 1. ChatGPT-generated ImageJ/Jython macro for segmentation of microglial cell profiles.

```
from ij import IJ, WindowManager
from ij.io import OpenFileDialog
from ij.process import ImageConverter
from java.awt import Frame, Button
from java.awt.event import ActionListener

class OpenFileAction(ActionListener):
    def actionPerformed(self, event):
        # Close all currently opened images
        IJ.run("Close All")

        # Open file dialog
        od = OpenFileDialog("Select a TIF file", None)
        directory = od.getDirectory()
        fileName = od.getFileName()
        if fileName is None:
            return # user canceled

        path = directory + fileName

        # Open the image
        imp = IJ.openImage(path)
        if imp is None:
            IJ.showMessage("Error", "Could not open image.")
            return

        # Convert to grayscale
        ImageConverter(imp).convertToGray8()

        # Show image
        imp.show()

        # Set Triangle auto-threshold (to get correct LUT/mode)
        IJ.setAutoThreshold(imp, "Triangle dark no-reset")

        # Open the Threshold window for user to see
        IJ.run(imp, "Threshold...", "")

# Create window with button
frame = Frame("TIF Loader")
button = Button("Open File")
button.addActionListener(OpenFileAction())
frame.add(button)
frame.setSize(200, 100)
frame.setVisible(True)
```