



## FRESH BRAIN SECTIONING

### PROTOCOL FOR CUTTING SLICES OF FRESH BRAIN TISSUE

#### **Key to reading the protocol:**

√ Rationale for procedural step

♠ Tips & Tricks

1. Deeply anesthetize animal.
2. Remove brains by dissection. If you are not sectioning the brain right away, store it in PBS until you are ready for cutting.
3. If you are ready to section with the Compresstome®, rinse the brain in PBS first.
4. Select a section of the brain that you would like to take cut for slices.
5. Glue the tissue sample onto the Compresstome® specimen syringe.
6. Draw the syringe downward to bring the brain tissue core sample into the syringe.
7. Fill the syringe with 2% agarose (Sigma A-0701, low gelling point, incubated at ~37°C).
  - √ Order a Starter Kit or additional agarose or blades directly from our website at <http://www.precisionary.com/starter-kit> !
8. Cool the entire contents of the specimen syringe with the chilling block. The brain tissue is now embedded in agarose. The agarose will solidify enough for stable sectioning.
9. Load the specimen syringe onto the Compresstome® slicer.
10. The protocol is complete for preparing the fixed brain specimen for sectioning. Proceed from here with normal Compresstome® sectioning procedures.
  - ♠ What are the optimal settings on the Compresstome® for cutting fresh brain slices? Try a speed (Advance) of 2 and an oscillation of 4-6. We have found that these parameters work best for obtaining superb brain slices with smooth surfaces without chattermarks.

## References

\* Uses the Compresstome® for successful fresh brain slices.

1. Klar R, Walker AG, Ghose D, Grueter BA, Engers DW, et al. Activation of Metabotropic Glutamate Receptor 7 Is Required for Induction of Long-Term Potentiation at SC-CA1 Synapses in the Hippocampus. *Journal of Neuroscience* 13 May 2015, 35 (19) 7600-7615; DOI: <https://doi.org/10.1523/JNEUROSCI.4543-14.2015>
2. Jaafari N, De Waard M, Canepari M. Imaging fast calcium currents beyond the limitations of electrode techniques. *Biophys J.* 2014 Sep 16;107(6):1280-8. doi: 10.1016/j.bpj.2014.07.059.