BrainMaker®

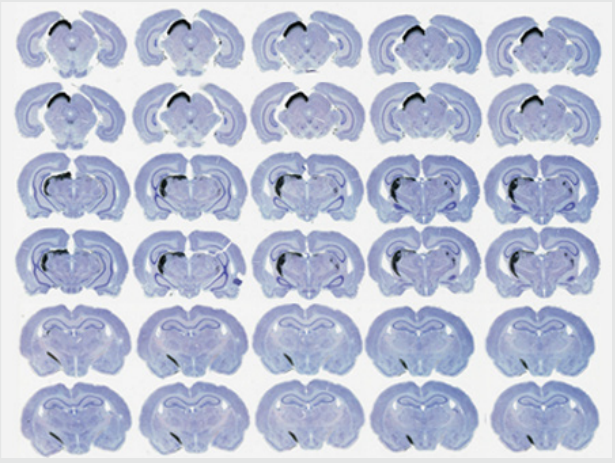
Automatically Align Serial Sections to Visualize Brains in 3D

BrainMaker automatically creates full-resolution 3D reconstructions of the entire brain (or any organ) using serial sections from whole slide images. It enables you to easily view cells, structures, and lesions. Simply load high-resolution images of serial sections acquired from a slide scanner or a research microscope, then let the software guide you through the automatic process for aligning and reconstructing 3D-image volumes that are ready for visualization and quantification.

With just a glance at the 3D reconstruction, you can perform sophisticated visualization and quantification, such as:

- the distribution of neurons expressing a particular gene
- axonal projections of specific neurons with full, brain-wide anatomical context
- neuronal pathways, cell distributions, vascular patterns, and additional features

Go from this



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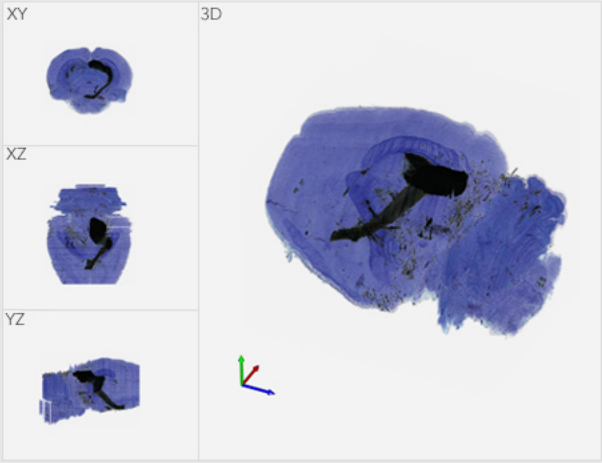

Minimum intensity projections of a 3D Nile rat brain registered and compiled from serial sections using BrainMaker. Blue represents Giemsa staining and black is neuronal tracer cholera toxin B.

Most brain sections are supported

- use sections cut in any orientation (e.g., coronal, sagittal or horizontal)
- automatically accommodate differences in histological processing between laboratories
- use whole slide images from virtually any commercial slide-scanner

Works with any microscope imaging modality:

- Brightfield
- Fluorescence (single and multi-channel)
- Darkfield

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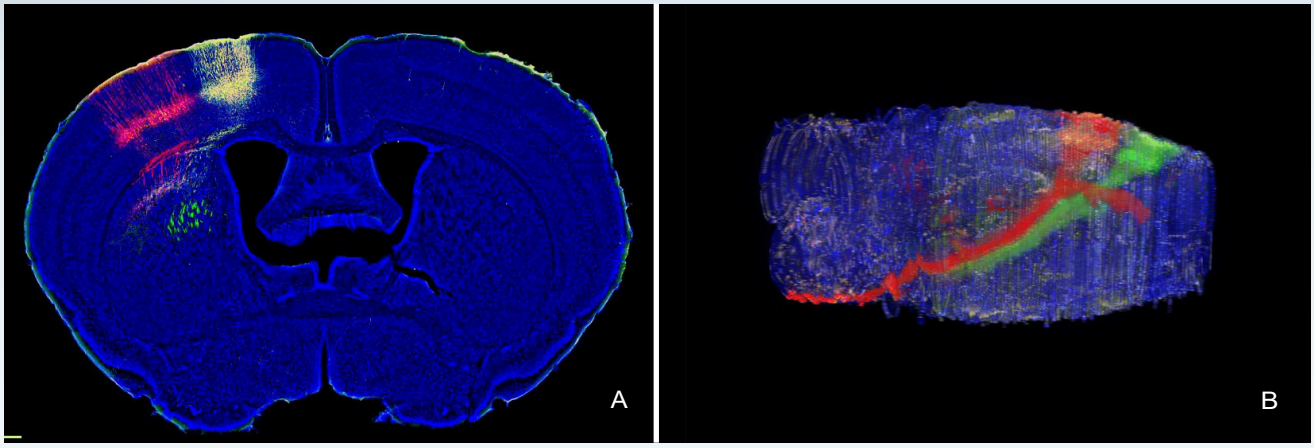

A maximum intensity projection (A) and individual serial section (B) from a fully-sectioned mouse brain.
Sections were segmented, registered, and compiled into a full-resolution 3D volume in BrainMaker.
Blue is Nissl staining; red, green, and yellow are AAV-Cre dependent tdTomato, GFP, and FLAG, respectively.

Use BrainMaker to assist with cell mapping, cytoarchitectonics, and other measures that require visualizing neuronal circuitry to create a comprehensive anatomical reference.

We offer both a free demonstration and a free trial copy of BrainMaker. During your demonstration, you'll also have the opportunity to talk to us about your hardware, software, and experimental design questions with our team of Ph.D. neuroscientists and experts in microscopy, neuron tracing, and image processing.

Learn more: mbfbioscience.com/products/brainmaker

About MBF Bioscience

A rich history of creating the future of neuroscience.

MBF Bioscience develops advanced tools for collecting and analyzing accurate, reproducible data from histological specimens, 2D and 3D microscope images, and freely moving *C. elegans* so that scientists can better understand brain diseases and processes at a cellular level.

Our products have helped researchers publish over 17,000 peer reviewed papers.

What our customers say

"MBF Bioscience is extremely responsive to the needs of scientists and is genuinely interested in helping all of us in science do the best job we can.

Sigrid Veasey, M.D.
University of Pennsylvania

"We've been very happy for many years with MBF products and the course of upgrades and improvements. Your service department is outstanding.

William E. Armstrong, Ph.D.
University of Tennessee

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