

# Neurolucida<sup>®</sup>

The Gold Standard for Neuron Reconstruction & Analysis



## Quantify Neuronal Morphology

The Neurolucida microscopy system is designed for accurately reconstructing neurons directly from histological specimens and analyzing over 500 quantitative morphometric properties, including:

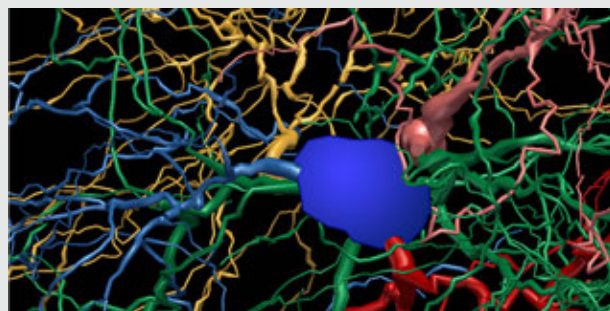
- Numbers of dendrites, axons, branches, synapses, varicosities, and spines
- Length, width, and volume of dendrites and axons
- Area and volume of somas
- Complexity and extension of neurons

A complete Neurolucida system includes all the necessary hardware in addition to Neurolucida software; they work together to deliver a powerful, easy to use neuron-reconstruction system. Automatic calibration and alignment make system maintenance simpler than ever before, and our renown technical and research support can help you optimize your experimental design and analysis.

## The Most Widely Cited System for Neuron Analysis

Neuroscientists have reconstructed and analyzed tens of thousands of neurons using Neurolucida, leading to major advances in understanding neurodegenerative diseases, neuropathy, memory, behavior, ophthalmology, and more.

*Neurolucida is cited over 7 times more often than other neuron-tracing programs combined.*



## Re-engineered, high-performance image and data handling engines speed up your work

Use and combine larger data sets, place and evaluate thousands of markers, trace neurons and regions across hundreds of sections, and visualize them in 3D. Large images load up to 5000-times faster for 3D visualization and up to 250-times faster in 2D.

## Automatic Cell Detection and 3D Brain Mapping

Neurolucida has advanced tools and analyses for detecting cells, and creating and analyzing 3D reconstructions of brain specimens from multi-channel fluorescence or brightfield images, including:

- Automatically detect cells using advanced algorithms powered by machine learning
- Map and analyze neuronal pathways and the distribution of cells in brain regions
- Quantify volumes to document atrophy and/or lesion size
- Analyze the distribution and spatial relationship of cells or plaques within specific anatomies

## Whole Slide Scanning

Neurolucida comes with advanced imaging capabilities and optional extension modules for brightfield and fluorescence whole slide scanning. Our new imaging engine enables significantly faster acquisitions and load times.



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Each Neurolucida System Is:

**Configured** by our experts to meet your specific research needs

**Fully integrated:** Neurolucida controls motorized stages, cameras, filter wheels, etc.

**Scalable** to fit your budget and current needs, with options for upgrading capabilities with extension modules and specialized hardware

**Supported** by our team of scientists and technicians, who are experts in neuron tracing, research software, and laboratory hardware—and can help you design your study

**Upgradable** to new software versions that are released regularly

Learn more at : [mbfbioscience.com/neurolucida](http://mbfbioscience.com/neurolucida)



## 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 15,000 peer reviewed papers.

## What our customers say

“ Neurolucida is one of the very few systems that combines complex morphometrical quantification with beautiful display of the results.

Ahmed Salehi, Ph.D.  
Stanford Medical School

“ Neurolucida is clearly the best in the field - reliable, accurate, and very importantly, easy and intuitive to use. I would not try any other system.

Jeffrey Kordower, Ph.D.  
Rush Presbyterian Medical Center

