Resource Summary Report

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Neurolucida

RRID:SCR_001775
Type: Tool

Proper Citation

Neurolucida (RRID:SCR_001775)

Resource Information

URL: http://www.mbfbioscience.com/neurolucida

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Description: Neurolucida is advanced scientific software for brain mapping, neuron reconstruction, anatomical mapping, and morphometry. Since its debut more than 20 years ago, Neurolucida has continued to evolve and has become the worldwide gold-standard for neuron reconstruction and 3D mapping. Neurolucida has the flexibility to handle data in many formats: using live images from digital or video cameras; stored image sets from confocal microscopes, electron microscopes, and scanning tomographic sources, or through the microscope oculars using the patented LucividTM. Neurolucida controls a motorized XYZ stage for integrated navigation through tissue sections, allowing for sophisticated analysis from many fields-of-view. Neurolucidas Serial Section Manager integrates unlimited sections into a single data file, maintaining each section in aligned 3D space for full quantitative analysis. Neurolucidas neuron tracing capabilities include 3D measurement and reconstruction of branching processes. Neurolucida also features sophisticated tools for mapping delineate and map anatomical regions for detailed morphometric analyses. Neurolucida uses advanced computer-controlled microscopy techniques to obtain accurate results and speed your work. Plug-in modules are available for confocal and MRI analysis, 3D solid modeling, and virtual slide creation. The user-friendly interface gives you rapid results, allowing you to acquire data and capture the full 3D extent of neurons and brain regions. You can reconstruct neurons or create 3D serial reconstructions directly from slides or acquired images, and Neurolucida offers full microscope control for brightfield, fluorescent, and confocal microscopes. Its added compatibility with 64-bit Microsoft Vista enables reconstructions with even larger images, image stacks, and virtual slides. Adding the Solid Modeling Module allows you to rotate and view your reconstructions in real time. Neurolucida is available in two separate versions Standard and Workstation. The Standard version enables control of microscope hardware, whereas the Workstation version is used for offline analysis away from the microscope. Neurolucida provides quantitative analysis with results presented in graphical or spreadsheet format exportable to Microsoft Excel. Overall, features include: - Tracing Neurons - Anatomical Mapping - Image Processing and Analysis Features - Editing -

Morphometric Analysis - Hardware Integration - Cell Analysis - Visualization Features
Sponsors: Neurolucida is supported by MBF Bioscience.

Synonyms: MBF Neurolucida

Resource Type: data analysis software, data processing software, data visualization software, software application, software resource

Defining Citation: PMID:2224829

Keywords: electron microscope, fluorescent, 3d mapping, anatomical, brian, brightfield, camera, confocal, digital, hardware, mapping, microscope, morphometry, neuron, reconstruction, scanning tomographic, software, tissue, virtual, video, image

Availability: Restricted

Resource Name: Neurolucida

Resource ID: SCR_001775

Alternate IDs: nif-0000-10294

Alternate URLs: http://www.nitrc.org/projects/neurolucida

Old URLs: http://www.mbfbioscience.com/neurolucida/neurolucida

Record Creation Time: 20220129T080209+0000

Record Last Update: 20260821T193630+0000

Ratings and Alerts

No rating or validation information has been found for Neurolucida.

No alerts have been found for Neurolucida.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 3396 mentions in open access literature.

Listed below are recent publications. The full list is available at ASWG .

Philips T, et al. (2026) Astrocyte MCT1 Expression Does Not Contribute to the Axonal Degenerative Phenotype Observed With Ubiquitous MCT1 Depletion. Glia, 74(2), e70113.

Maffei C, et al. (2026) The modular nature of long-association pathways in the human brain. bioRxiv : the preprint server for biology.

Kim J, et al. (2026) A chromosome region linked to neurodevelopmental disorders influences locomotor behavior through sex-specific neural circuits. Nature communications, 17(1), 107.

Budrow CN, et al. (2026) Effects of chemogenetic inhibition of serotonergic raphe-striatal neurons on L-DOPA-induced behaviors and neurochemistry in a rat model of Parkinson's disease. Acta neuropathologica communications, 14(1).

Mazzachi P, et al. (2026) Modelling synaptic dysfunction in childhood dementia using human iPSC-derived cortical networks. Nature communications, 17(1).

Panuccio A, et al. (2026) Sustained Palmitoylethanolamide Infusion Restores Incentive Motivation and Synaptic Plasticity in the Tg2576 Mouse Model of Alzheimer's Disease. Cells, 15(8).

Ghosh M, et al. (2026) Propentofylline and Interleukin-4 Modulate Lesion-Associated Myeloid Responses and Improve Functional Recovery After Spinal Cord Injury. Cells, 15(7).

Iqbal Z, et al. (2026) Maternal exercise enhances hippocampal plasticity and resilience against stress-induced depressive behaviors in adult offspring. Scientific reports, 16(1).

Li Z, et al. (2026) Prefrontal Cortex 5-HT1A Receptor-Coupled Inwardly Rectifying Potassium Channels Decreased Seizure Susceptibility in Rat Models With Autism Spectrum Disorder. Neural plasticity, 2026(1), e4005949.

Bridges SP, et al. (2026) A role for nucleolin in functional improvement in stroke. iScience, 29(6), 116134.

Tian M, et al. (2026) Paricalcitol-mediated vitamin D receptor activation attenuates neuronal ferroptosis via cAMP-PKA-DRP1 signaling pathway after intracerebral hemorrhage. Neurotherapeutics : the journal of the American Society for Experimental NeuroTherapeutics, 23(1), e00767.

Spielman B, et al. (2026) Captopril restores microglial homeostasis and reverses ASD-like phenotype in a model of ASD induced by exposure in utero to anti-caspr2 IgG. Molecular psychiatry, 31(3), 1648.

Schiff H, et al. (2026) Postnatal Development of Pyramidal Neurons Excitability and Synaptic Inputs in Mouse Gustatory Cortical Circuits. eNeuro, 13(4).

Vaasjo LO, et al. (2026) Dendritic Inhibition Terminates Plateau Potentials in CA1 Pyramidal Neurons. The Journal of neuroscience : the official journal of the Society for Neuroscience, 46(20).

Yazi S, et al. (2026) The effect of canagliflozin on hippocampal dendrite morphology in a model of Alzheimer's disease induced by intracerebroventricular injection of streptozotocin. Brain structure & function, 231(6).

Li X, et al. (2026) Cortex-Restricted Deletion of Foxp1 Impairs Visual Responses by Disrupting Geniculocortical Connections in a Mouse Model of Autism. Investigative ophthalmology & visual science, 67(2), 50.

Sandle JG, et al. (2026) Group I metabotropic glutamate receptors differentially modulate excitatory transmission across interneuron types in the human cortex. Frontiers in synaptic neuroscience, 18, 1766413.

Di Bartolomei G, et al. (2026) Dilated cardiomyopathy-associated RNA-binding motif protein 20 regulates long pre-mRNAs in neurons. eLife, 14.

Seb??k-Tornai A, et al. (2026) Synaptic density in the hippocampus of depressed patients: A quantitative electron microscopic study. Progress in neuro-psychopharmacology & biological psychiatry, 146, 111661.

Inagaki S, et al. (2026) Isotonic and minimally invasive optical clearing media for live cell imaging ex vivo and in vivo. Nature methods, 23(4), 839.