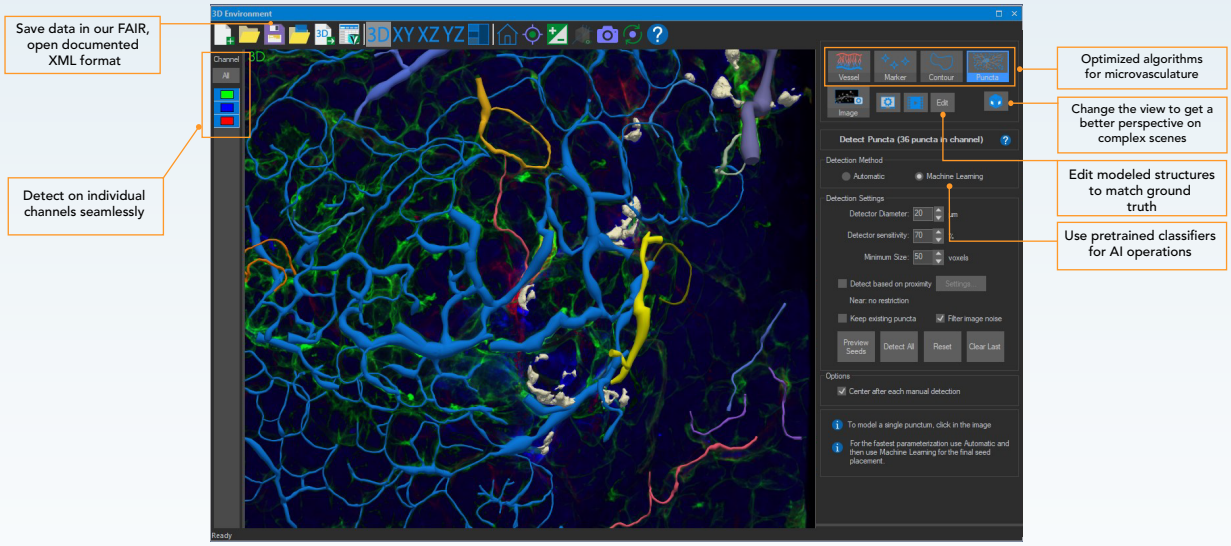
Vesselucida® 360

Quantitative and Visual Analysis for Blood Vessels and Microvasculature

Quantify Vasculature Accurately

Use Vesselucida 360 to quickly model complex vasculature in an intuitive 3D workspace. Generate reliable, quantitative data on the length, connections, and complexity of microvessels to empower your research on angiogenesis in cancer, diabetic retinopathy, stroke and traumatic brain injury, and other conditions that affect microvasculature.



Automatically Segment and Reconstruct Vasculature in 3D

Collect more data in less time using Vesselucida 360.

- Automatically detect microvasculature, even in challenging specimens using sophisticated Vesselucida 360 algorithms
- Examine networks at multiple levels, including nodes, anastomoses, puncta, and multiple orientation and distance measurements
- Use fully automatic, semi-automatic, or manual tracing tools, all with editing capabilities, to generate data based on ground truth
- Process and trace many images at once using the intuitive batch-pipeline tool
- Analyze individual segments' surface and volume, as well as numbers of branch points and reconnections
- Work dynamically with large images in manageable sub-volumes, cut planes, and partial projections for better visualization

Work with Images of Virtually Any Size in Virtually Any Format

Visualize your specimens using techniques that fit your research paradigm. Images obtained using micro-CT, confocal, two-photon, multichannel fluorescence, and light sheet microscopes are all compatible. Open large, complex images instantaneously using the new image and data handling engines that load large images up to 5000X faster in 3D and up to 250X faster in 2D.

Learn more: mbfbioscience.com/products/vesselucida-360

mbfbioscience.com | 1-802-288-9290 | info@mbfbioscience.com

Vesselucida® Explorer

Turn Your Data into Results

Quantitative Analysis of Morphological Data from Vesselucida 360

Vesselucida Explorer is the analytical software companion included with Vesselucida 360. Use it to perform extensive quantitative morphometric analyses designed specifically for microvasculature models and serial-section reconstructions.

Far More than Just Numbers

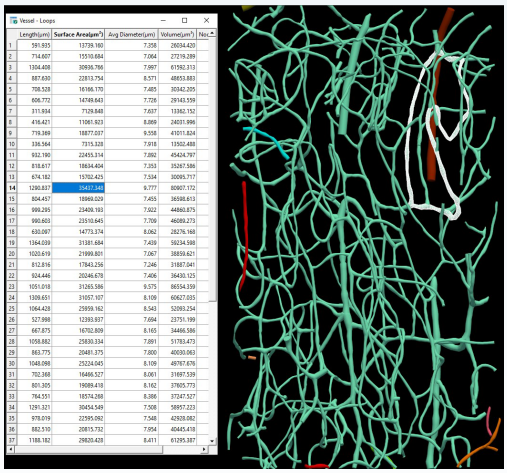
Perform dozens of analyses that calculate and graph hundreds of metrics.

- Characterize structure, distribution, orientation, and colocalization of features in your microvasculature models
- Generate comprehensive quantitative data tables that you can easily export for use in statistical and spreadsheet software
- Create graphical displays to visualize quantitative results in intuitive ways and use these high-quality displays in figures for publications and presentations

A Mountain of Data without the Data Overload

Find answers in your data and present to others using Vesselucida 360 and Vesselucida Explorer.

- Load multiple data sets into Vesselucida Explorer for rapid, batch quantitative data analyses with no scripting or programming skills needed.



Vessel - Loops

	Length(µm)	Surface Area(µm²)	Avg Diameter(µm)	Volume(µm³)	Nei
1	591.935	13739.160	7.258	26034.420	
2	714.807	15510.684	7.064	27219.289	
3	1304.408	30936.786	7.997	61592.313	
4	887.630	22813.754	8.571	48653.883	
5	798.528	16166.170	7.485	30342.205	
6	806.772	14749.643	7.726	29143.559	
7	311.894	7129.848	7.637	13382.152	
8	416.421	11061.923	8.069	24031.996	
9	719.369	18877.037	9.558	41011.824	
10	336.564	7315.328	7.918	13502.488	
11	932.190	22455.314	7.892	45424.797	
12	818.617	18634.404	7.353	35267.586	
13	674.182	15702.425	7.534	30095.717	
14	1290.837	35437.349	9.777	80907.172	
15	804.457	18969.029	7.455	36598.613	
16	990.295	23409.193	7.922	44860.875	
17	990.603	23510.645	7.709	46089.273	
18	630.097	14773.374	8.062	28276.168	
19	1364.039	31381.684	7.439	59234.598	
20	1020.619	21999.801	7.067	38859.621	
21	812.816	17843.256	7.246	31887.041	
22	924.446	20246.678	7.406	36430.125	
23	1051.018	31265.586	9.575	86554.359	
24	1309.651	31057.107	8.109	60627.035	
25	1064.428	25959.162	8.543	52093.254	
26	527.998	12393.937	7.664	23751.199	
27	667.875	16702.809	8.165	34466.586	
28	1058.882	25830.334	7.891	51783.473	
29	863.775	20481.375	7.800	40030.063	
30	1048.098	25224.045	8.109	49787.676	
31	702.368	16446.527	8.061	31697.539	
32	801.305	19089.418	8.162	37605.773	
33	784.551	18574.288	8.386	37247.527	
34	1291.321	30454.549	7.508	58957.223	
35	978.019	22595.082	7.548	42928.082	
36	882.510	20815.732	7.954	40445.418	
37	1188.182	29820.428	8.411	61295.387	

Learn more: mbfbioscience.com/products/vesselucida-explorer

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

"After examining different vessel quantification tools for use with neovessel formation in the heart, we chose Vesselucida 360 as it offered us flexibility in viewing & adjusting vessel geometries in 3D to accurately represent our microCT dataset.

Dr. Kareen Coulombe
Brown University

"Vesselucida 360 enables us to visualize and quantify microvascular networks in a way that has not been done before. The ability to render 3D maps is integral to analysis of network structure, remodeling and blood flow distribution.

Dr. Nicole Jacobsen
University of Missouri

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