

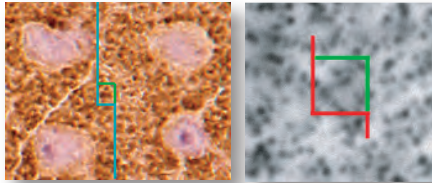


SING  
SYSTEMS

# Synapse specialists

Pioneers in quantitative analysis of synaptic parameters.  
Sensitivity and specificity: structure, transmitters & transport.

Whether stereology, detailed single-neuron analysis or integrated image analysis approaches, Sing Systems has the experience in neuroscience models and systems, visualization and microscopy techniques, and application of the most robust quantitative methodology in brain research. Our new technology<sup>1</sup> makes these techniques several times more efficient than previously possible.



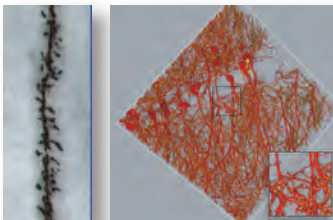
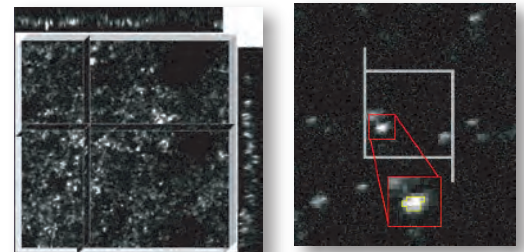
synaptophysin      spinophilin

## Light microscopic analysis

Our scientists established the labeling and analysis techniques for the most efficient quantification of total numbers of presynaptic boutons<sup>2</sup> and dendritic spines<sup>3</sup> - methods which continue to have wide application as the most cost-effective solution for regional analyses.

## Confocal microscopy

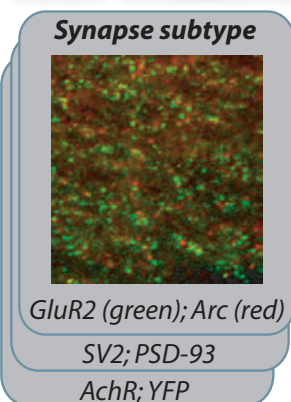
The added resolution and controlled acquisition settings are essential for analysis of many synaptic parameters. Our confocal facility and tools allow, for instance, simultaneous quantification of the number, size, and intensity of synaptic elements, and with multiple labels, can identify and quantify the extent of colocalization.



## Dendritic structure

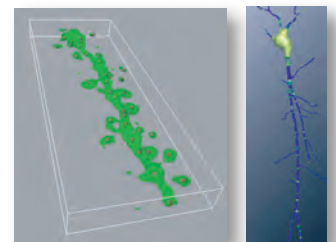
Whether from traditional stainings such as Golgi, or using fluorescently-labeled neurons, we apply both tracing and automated reconstruction techniques to measure such parameters as:

- Spine density
- Dendrite length/branching
- Spine volume/subtype



## Compartmentalization/Distribution

Changes in the localization of molecules within dendritic structure are associated with activity, plasticity, and development. We have experience for instance in how Arc, eIF, and synaptopodin change their localization within dendrites/spines following stimuli.



These and other synapse assays complement our expertise in quantitative analysis of cell number, axon length, and many other parameters - contact us for results you can count on!

All projects fit into our flexible workflow with low startup cost and the ability to do acquisition and/or analysis within your own lab. Call or email today for expert advice on your next project.



Sing Systems  
8070 Georgia Ave  
Suite 203  
Silver Spring, MD 20910  
(301) 327-4900

<http://www.sing-systems.com>  
[info@sing-systems.com](mailto:info@sing-systems.com)

© 2010, Sing Systems Inc, all rights reserved