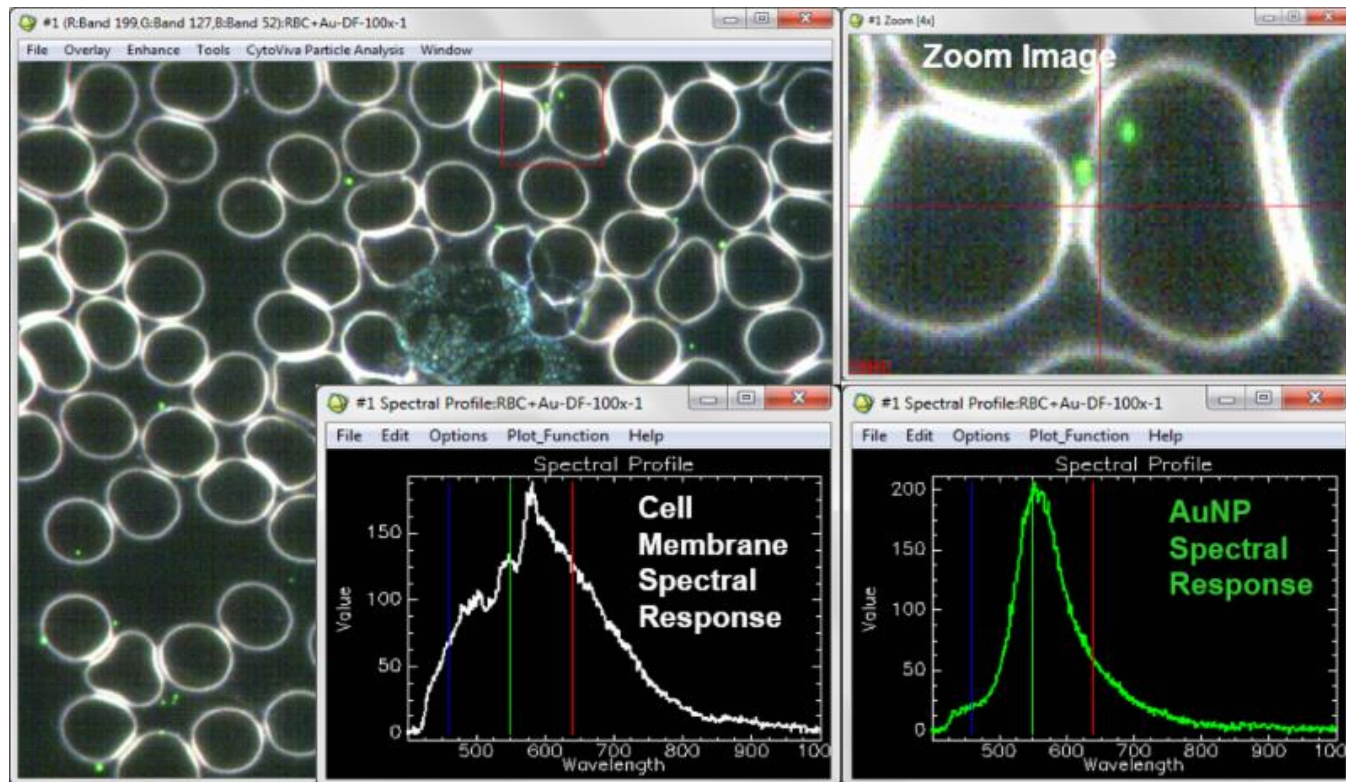


Imaging 50nm AuNPs in Live Blood Cells

The circulatory system is the vehicle for the delivery of functionalized nanoparticles to targeted cells and tissue. As such, it is critical that these nanoparticles can be easily observed and characterized in the bloodstream. CytoViva's Enhanced Darkfield Hyperspectral Microscope is a highly effective tool for optically imaging and spectrally characterizing AuNPs and other nanoparticles in the bloodstream and in other biological and materials based environments. CytoViva's microscope system requires no labeling or other sample preparation of the nanoparticles or the biological matrix.



CytoViva's patented, enhanced darkfield microscope capability creates a high signal-to-noise optical image which enables fast and direct observation of unlabeled AuNPs in live blood cells. In Figure 1 above, these AuNPs appear green due to the effect of their plasmon resonance when illuminated with broadband halogen light. Additionally, these particles produce a distinct reflectance spectral response due to this plasmon resonance. Capturing hyperspectral images from the enhanced darkfield microscope enables accurate spectral characterization in each nanoscale pixel of the image. This makes it easy to measure the spectral response of the nanoparticles, confirming their presence and how they interact with individual cells of the blood sample.

Using CytoViva technology, scientists can quickly and easily observe and spectrally characterize nanoparticles in the circulatory system. This can serve to advance the understanding of nanoparticle efficacy when used as drug delivery vectors, biosensors, and related applications. This system can also be used to observe and characterize nanoparticles in other cells, tissue, and even materials based matrices. Please contact CytoViva at info@cytoviva.com to learn more about its imaging technology or to arrange for test imaging of your samples.