

Hyperspectral imaging is an invaluable analytical technique for life sciences and biotechnology applications, whether used as a traditional high performance spectral imaging instrument or deployed as a multi-channel spectroscopy system.

Readily integrated into a laboratory setting, Headwall's Hyperspec® instrument offers researchers access to accurate, calibrated, and repeatable spectral analysis. When utilized as a multi-channel spectrometer, high-throughput screening experiments can be conducted where high spectral resolution, spatial differentiation, and channel separation are all critical parameters.

Optimized for high-throughput screening, the Hyperspec instruments are fully-capable of processing at very high speeds based on selected spectral bands or wavelengths of interest.

For life science and biotechnology research, Headwall offers the Hyperspec® Starter Kit – a system comprising a Hyperspec® sensor, image rendering software, sample illumination, a moving stage, and a mounting gantry.

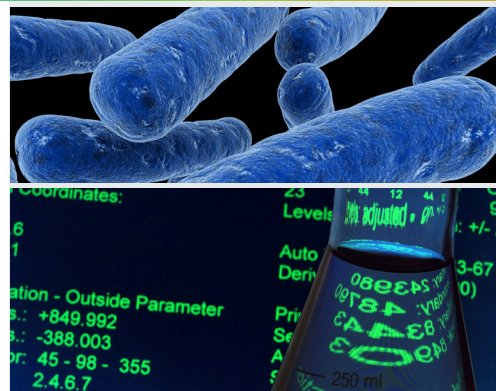
Key advantages of hyperspectral imaging for laboratory researchers include:

- For material classification, derive the spectral signature for every channel within the micro-well plate or for every pixel within the spatial field of view
- Color render the hyperspectral image based on an established library of known spectral signatures
- For high throughput screening, generate wavelength-specific criteria for high speed analytical control throughout the discovery and experimentation process

Headwall's Hyperspec® multi-channel spectrometer imaging systems are available for attachment to microscopes through C-mount hardware or as integrated microscopy systems complete with application-specific software through Headwall's application partners.

Application Note

Biotechnology & Life Sciences Hyperspectral Imaging



Hyperspec Starter Kit

Fluorescence

High Throughput Screening

Laboratory R & D

Multi-Channel Spectroscopy

Nanobead & Quantum Dot Analysis

Headwall Photonics offers the broadest range of spectral imaging instrumentation for demanding applications.

Hyperspectral Sensors	Spectral Range
Hyperspec® VIS	380 - 825 nm
Hyperspec® VNIR	400 - 1000 nm
Hyperspec® Extended VNIR	600 - 1600 nm
Hyperspec® NIR	900 - 1700 nm
Hyperspec® SWIR	1000 - 2500 nm
Micro-Hyperspec™ VNIR	400 - 1000 nm
Micro-Hyperspec™ NIR	900 - 1700 nm
High Efficiency Hyperspec® NIR	900 - 1700 nm
High Efficiency Hyperspec® SWIR	1000 - 2500 nm

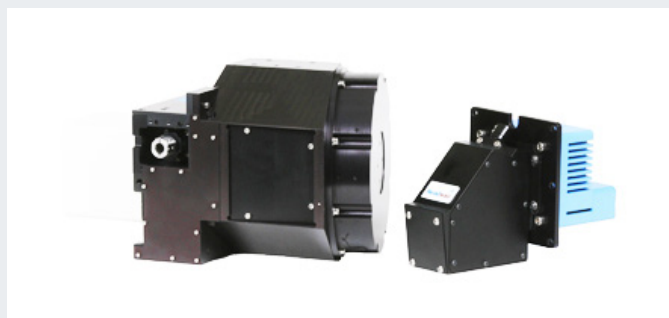


Information on UV, MWIR, and LWIR Hyperspec® sensors are available upon request.

Raman Imaging Instruments

Raman Explorer™ 248 nm
 Raman Explorer™ 532 nm
 Raman Explorer™ 532/685 nm dual excitation
 Raman Explorer™ 632.8 nm
 Raman Explorer™ 785 nm
 Raman Explorer™ 830 nm
 Raman Explorer™ 1064 nm

 Raman Discovery™ 532 nm
 Raman Discovery™ 785 nm



About Headwall Photonics:

Headwall Photonics is the leading designer and manufacturer of imaging spectrometers and spectral instrumentation for industrial, commercial, and government markets. Headwall's high performance spectrometers, spectral engines, and holographic diffraction gratings have been selected by OEM and end-user customers around the world for use in critical application environments. As a pioneer in the development of innovative spectrographs and imaging spectrometers based on optical technologies, Headwall enjoys a market leadership position through the design and manufacture of patented spectral instrumentation that is customized for application-specific performance. Headwall Photonics was formed in 2003 as the result of a management buy-out from Agilent Technologies. **For more information please call 978.353.4100 or email us at information@headwallphotonics.com.**

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