



Fluorescence is a common problem in Raman spectroscopy and a longer excitation wavelength is the answer. Under conditions where fluorescence is generated, it may be intense and can overshadow the Raman features. Fluorescence emission stems from sample molecules or trace impurities that absorb the laser excitation and emit a broad background at the same energies as the Raman scattering. One way to eliminate or reduce the fluorescence emission is to select a laser excitation wavelength that does not have enough energy to excite molecular fluorescence. The Advantage 785 reduces competing fluorescence interference in compounds through this process. It uses a 785 nm excitation laser to reduce the fluorescence signature in samples that show strong fluorescence at shorter wavelengths. We also offer a microscope attachment, the NuScope™, which is used to image samples and show Raman spectra of domains in heterogeneous materials.

APPLICATIONS

- **Pharmaceutical:**

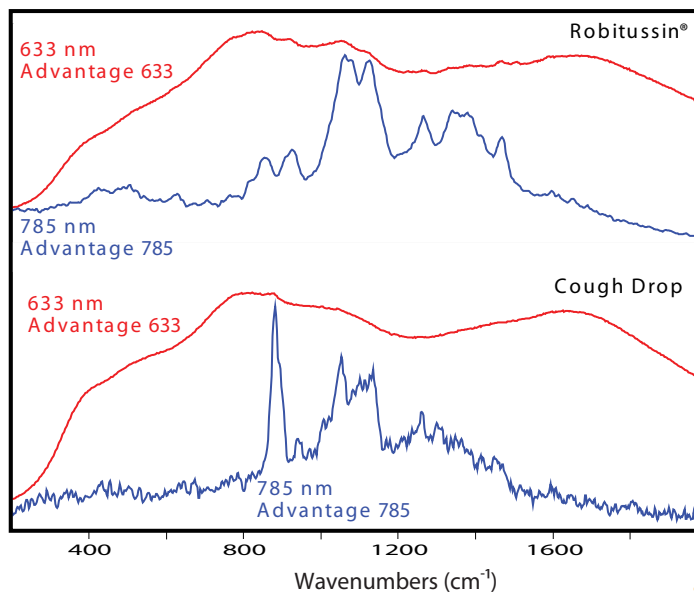
- Minimizes fluorescent background in cough syrups and drops
- Reduces fluorescent baseline in capsules and tablets

- **Food:**

- Dampens fluorescent response from contaminants (carotenes, etc.) in edible oils, starches and sugars

- **Oil and Gas:**

- Reduces fluorescent response from additives in fuels
- Minimizes fluorescent signature from asphaltenes



Advantage 785

SPECIFICATIONS

Liquid Sampling	Sample cell attachment for 8mm vials, NMR tubes, or MP tubes
Solid Sampling	Optional accessories: XYZ Stage and Right Angle Output Optics
Microscopy Options	Digital microscope attachment; NuScope™
Laser	120mW (80mW at sample), 785 nm diode laser, power adjustable
Resolution	5 cm ⁻¹
Spectral Range	200 - 2000 cm ⁻¹ (100 - 2000 cm ⁻¹ optional)
Computer	Laptop PC
Software	NuSpec software and library development software
Warranty	One year parts and labor
Material Library	> 1000 samples (organic and mineral compounds)

TEACHING LABS

Observe Periodic Trends Using Raman Spectroscopy

Organic Functional Groups

Determination of a Langmuir Isotherm Using SERS

Introduction to Raman Spectroscopy

Percent Ethanol in Water Determination Using Raman Spectroscopy

Forensic Analysis: Raman Spectroscopy of a Crime Scene

Green Chemistry: A Rapid and Effective Way to Identify Polymers Through Raman Spectroscopy

Vibrational Spectrum of CCl₄

Vibrations of Carbon Dioxide and Carbon Disulfide

Teaching labs available online

