

Transmission Raman for monitoring pharmaceuticals

Chemical sciences



Renishaw's inVia™ Raman microscope is the ideal system for chemical characterisation throughout the development, manufacture and testing of pharmaceutical formulations.

Whether at the research and development stage, or manufacturing, the inVia Raman microscope offers simple and fast transmission Raman analysis.

Transmission Raman measures the Raman scattered light which has travelled through the whole depth of the sample, rather than the more conventional back scattered light. This enables contributions from the whole sample depth to be analysed.

Investigate mixtures with transmission Raman mapping:

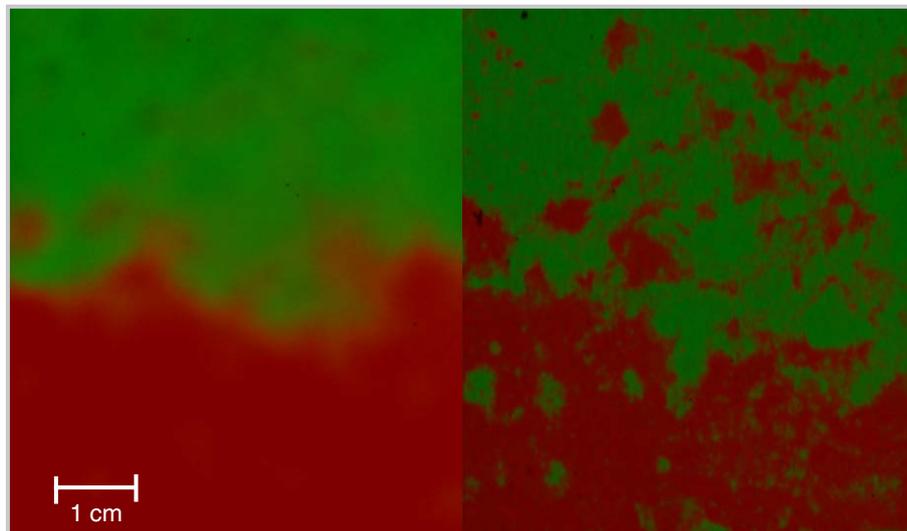
- Fast, non-destructive and typically no sample preparation necessary
- Quickly reveal the blend homogeneity of large batch samples > 20 cm³
- Visualise the homogeneity of specific chemical components and target blend ratios
- Research and optimise unpredictable mixing behaviours
- Suitable for a wide range of powder blends

Analyse through coatings and containers:

- Analyse final formulations with ease by probing the entire sample depth, not just the surface
- Avoid costly preparation (e.g. microtoming or milling)
- Determine packaging contents without the need for opening

Quantification:

- Accurately establish the relative amounts of different components from even very large samples
- Develop chemometric models to predict concentration
- Adjust your sampling volume to match your needs



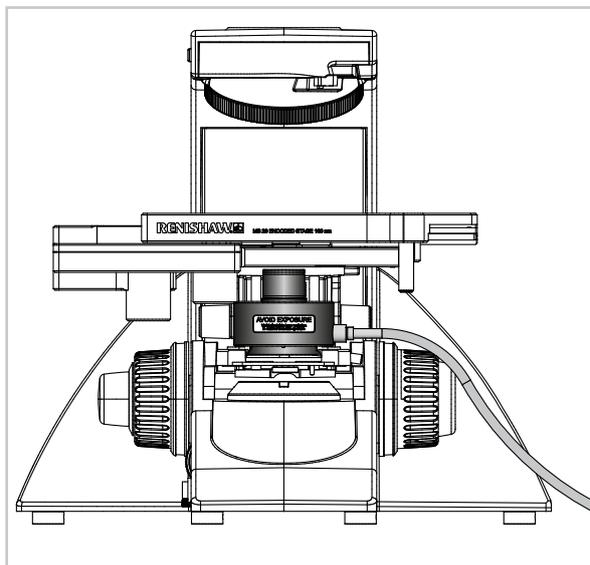
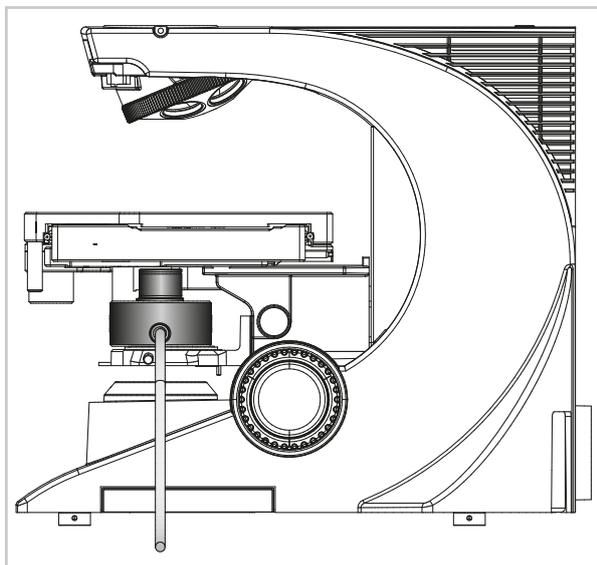
Raman images show locations of caffeine (red) and acetaminophen (green) in a powder blend. Transmission image (left) provides a more accurate representation of the complete blend mix. Equivalent backscatter image (right) is surface sensitive only.

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Add extra functionality to your inVia Raman microscope with Renishaw's transmission Raman accessory. An essential tool for monitoring and guiding the production and design of pharmaceuticals.



The inVia Transmission Raman accessory

Renishaw inVia: ideal for studying pharmaceutical formulations

- Research grade confocal Raman microscope
- StreamLine™ imaging technology for high speed mapping without damage
- Class 1 laser compatible
- Integrated, targeted, data analysis techniques
- Designed for use within a 21 CFR pt11 environment



The Renishaw inVia confocal Raman microscope

A range of related Renishaw literature is available. Please ask your local Renishaw representative for more information.

Renishaw. The Raman innovators

Renishaw manufactures a wide range of high performance optical spectroscopy products, including confocal Raman microscopes with high speed chemical imaging technology, dedicated Raman analysers, interfaces for scanning electron and atomic force microscopes, solid state lasers for spectroscopy and state-of-the-art cooled CCD detectors.

Offering the highest levels of performance, sensitivity and reliability across a diverse range of fields and applications, the instruments are designed to meet your needs, so you can tackle even the most challenging analytical problems with confidence.

A worldwide network of subsidiary companies and distributors provides exceptional service and support for its customers.

Please visit www.renishaw.com/pharma for more information.