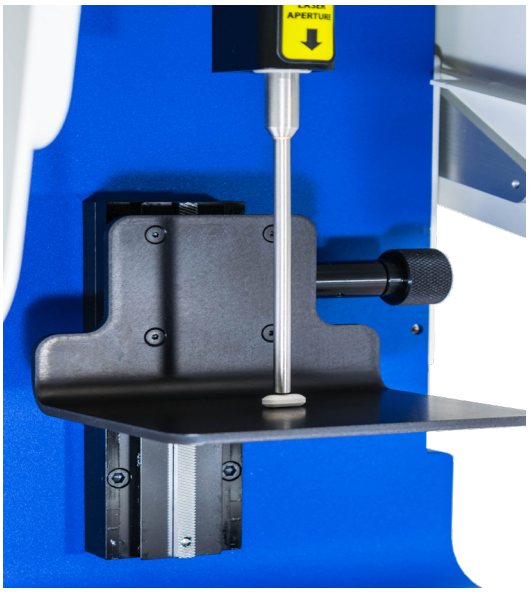
Reva
Educational Raman

Raman Spectroscopy Use with Solids in Pharmaceuticals

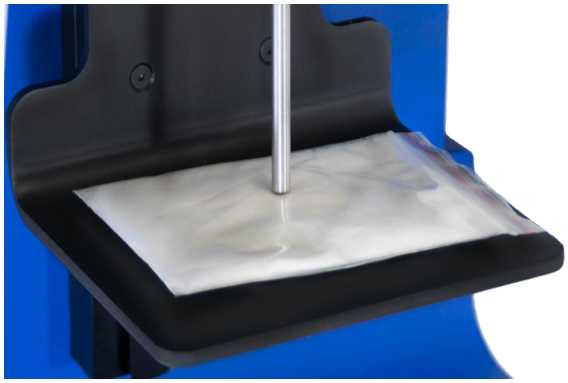
Raman spectroscopy can be used to analyze the composition of drugs and to monitor both the manufacturing and quality control process.

The use of Raman spectroscopy to analyze solids is most notable in pharmaceuticals. This light scattering technology allows for the active excitations to be understood so that scientists may gain insight into the basic properties of a sample.[1] The spectra of a sample reveals the types of chemicals present within it, making it a vital tool for analyzing drugs and their chemical makeup.

In the drug industry, many scientists favor Raman spectroscopy because it is a non-destructive means of gathering information, and the measurements can be taken on powder, pellets, tablets, and more through bags or plastic.[2] When drugs are synthesized, Raman is able to monitor the concentrations and yields present, and during the manufacturing process, the purity and amount of API are studied, as well.[3] The use of Raman in pharmaceuticals is a way for drug companies to accurately and effectively monitor the production, quality, and safety of the chemical compounds being created.



Though utilizing Raman is vital during the drug formation process, it continues to be extremely important after the drug hits the market. Raman spectroscopy is also used to make sure that competing brands don't infringe on the company's drug patent by distributing products with the exact same chemical composition.[4] Additionally, it can be used during the company's quality control process, assuring consistency of the drug's chemical composition throughout thousands, if not millions, of batches.[5]



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