

SERS Investigations of Isolated Nuclei

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Surface-enhanced Raman scattering has developed into a useful analytical tool to gain chemical and structural information about cells. Noble metal nanoparticles are used as SERS substrates to achieve high enhancement factors and high sensitivities. The spectral information depends only on the immediate surroundings of the noble metal nanoparticles, and is used to distinguish between different molecules in the cellular compartments and extracellular molecules attached to the nanoparticle surface.^[1-3]

On this poster, we present SERS spectra of isolated nuclei of mouse fibroblast cells. Normal Raman signals of intact and non-dried nuclei are difficult to obtain. Because of the high sensitivity of SERS we can obtain data of intact nuclei. In our poster we show that the quality of the SERS signals depends strongly on the isolation conditions. Further, we will discuss the spectra in comparison to SERS data from other cellular compartments. Our results have implications for further studies regarding nuclear targeting with SERS labels and probes.

References:

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