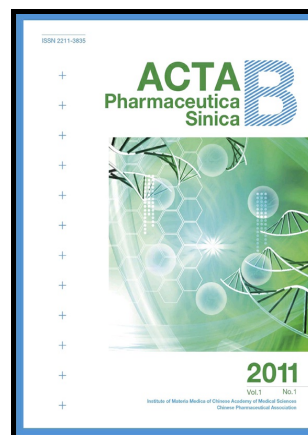


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## REVIEW

# Surface-enhanced Raman nanoparticles for tumor theranostics applications

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Running title: SERS nanoparticles for tumor theranostics applications

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**Abstract** Raman spectroscopy, amplified by surface-enhanced Raman scattering (SERS) nanoparticles, can provide an *in vivo* imaging modality due to its high molecular specificity, high sensitivity, and negligible autofluorescence. The basis, composition, and methodologies developed for SERS nanoparticles are herein described. The research hotspots that are the focus in this paper are tumor imaging-guided theranostics and biosensing. The next breakthrough may be the development of biocompatible SERS nanoparticles and spectroscopic devices for clinical applications.

**KEY WORDS** Raman spectroscopy; SERS; Cancer imaging; Nanoparticles; Theranostics

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