

## Activatable Multifunctional Nanocomposites for Cancer Theragnosis

임은경<sup>†</sup>

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Nanomedicine is the medical application of nanotechnology. Nanomedicine ranges from the medical applications of nanomaterials, to nanoelectronic biosensors, and even possible future applications of molecular nanotechnology. For effective cancer therapy, early diagnosis and accurate drug delivery methods using nanomaterials are required. Drug delivery nanocomposites focus on maximizing delivery efficiency to the cancer sites that expect increasing therapeutic efficiency without damaging normal other tissues in the body, which could be designed to improve the pharmacological and therapeutic properties of drugs. The theragnosis nanocomposites have been developed as all-in-one system that is possible to diagnose and treat cancer by monitoring of drug delivery particles behavior simultaneously. In these systems, recently, the application of stimuli-responsive, activatable nanomaterials, capable of producing chemical or physical changes by external stimulating that carry out multiple tasks simultaneously for early and accurate diagnosis, efficient cataloguing of patient groups of personalized therapy, and real time monitoring of disease progress.