

Nanomedicine: Bioimaging and Spatial Transcriptomics

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Nanotechnology-based nanomedicine offers several advantages over traditional drug platforms. For example, imaging contrast agents can be loaded to improve diagnostic imaging, surfaces can be modified with targeting moieties for enhanced drug delivery, and various types of therapeutic molecules can be loaded easily, which makes nanomedicine to be suitable platform for theranostics. In this talk, several examples of theranostics agents based on nanoparticles will be presented. Also, it will be discussed about a novel method utilizing spatial transcriptomics to evaluate molecular markers associated with enhanced permeability and retention (EPR) effect of nanoparticles, which is a major theory explaining the improved delivery efficiency of nanomedicines.

Ref)

1. ACS Nano. 2023 Feb 6. doi: 10.1021/acsnano.2c08898.
2. Small Methods. 2022 Nov;6(11):e2201091.
3. J Nanobiotechnology. 2021 Sep 4;19(1):262.