Advanced characterizations of nanoparticles for drug delivery: investigating their properties through the techniques used in their evaluations

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Abstract

Nanomedicine has achieved a huge success in delivering a wide variety of drug molecules into the target site of the body. In this respect, the characterization of nanoformulation is very important to investigate the drug molecule together with its carrier as a nanoform during formulation, storage, and in vivo transport through the body. This review article summarizes important advanced characterization techniques of nanoformulation with respect to their theories, use of required instrumental parameters, sample preparation techniques, data interpretation, etc., to exploit them for the best possible results. This review article also sheds a glimpse to the shortcomings of these techniques together with further advancements required in future.

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