

Strategies for Testing Drug Release from Nano-Sized Forms of Therapy in Vitro: A Review

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Abstract: *The techniques for establishing an IVIVC and studying real-time drug release from nanoparticulate drug delivery devices are included in this paper. Drug release is presently measured using a range of approaches, including sample and separate (SS), continuous flow (CF), dialysis membrane (DM) methods, and a combination of these, in addition to cutting-edge methods like voltametry and turbidimetry, since there are no compendial standards in place. The fundamentals of each approach are covered in this overview, along with their benefits and drawbacks, including difficulties with setup and sample. The SS method's straightforward setup requirements enable direct monitoring of drug release, although sampling is laborious. Sampling is simple when using the CF approach, although setup takes some effort. The DM makes setup and sampling simpler, but it may not be appropriate for medications that attach to membranes. Although such approaches may only be able to monitor drug release in real time for certain kinds of medications, they may provide an opportunity. Dialysis has been used to acquire Level A IVIVCs among various techniques, either by itself or in conjunction with a different procedure and a sample. The creation of mathematical models that explain drug release processes and aid in the construction of dose forms at the nanoscale should be the main goals of future research.*

Keywords: Testing drug

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