

Nanotechnology in Virology

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Abstract

Viruses are submicroscopic infectious agents causative of many diseases in humans including several deadliest infections that have emerged in the recent past. The rapid and accurate diagnosis of viral infections at the early stages is crucial in preventing the pathogen outburst. However, most of the currently available diagnosis methods are often laborious, time-consuming, and less sensitive. On the other hand, the limited availability of antiviral therapeutics and the adverse effects associated with traditional antiviral medicines necessitate the development of novel treatment strategies to combat viral infections. In recent years, different types of nanomaterials have been explored for the diagnosis and treatment of viral infections. This chapter provides an overview of some nanotechnology-based approaches developed for the rapid and high-quality diagnosis of viral infections. Further, antiviral treatment strategies involved with nanomaterials are also discussed with examples.

Keywords

Antiviral, Diagnosis, Nanomaterials, Viral infections