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Clay-based drug-delivery systems: What does the future hold?

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Abstract

© 2017 Future Science Ltd. Clays for drug delivery have been used from ancient time due to the large availability of clay minerals and their unprecedented properties. The empirical use of nanoclays from the past is converted in a stimulating scientific task aimed at building up nanoarchitectonic vehicles for drug delivery in a targeted and stimuli-responsive fashion. Here the historical aspects are discussed; next the modern examples of applications of different clay-based materials are discussed. A special focus is given to halloysite clay nanotubes, which are an emerging and very promising nanomaterial for drug-delivery purposes due to its special morphology and unique chemical properties. Advantages and limitations of these natural nanomaterials are critically discussed pointing out the future perspectives and directions for further research.

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Keywords

drug delivery, halloysite, nanoclay, nanotubes

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