The therapeutic contribution of nanomedicine to treat neurodegenerative diseases via neural stem cell differentiation

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Résumé en anglais	The discovery of adult neurogenesis drastically changed the therapeutic approaches of central nervous system regenerative medicine. The stimulation of this physiologic process can increase memory and motor performances in patients affected by neurodegenerative diseases. Neural stem cells contribute to the neurogenesis process through their differentiation into specialized neuronal cells. In this review, we describe the most important methods developed to restore neurological functions via neural stem cell differentiation. In particular, we focused on the role of nanomedicine. The application of nanostructured scaffolds, nanoparticulate drug delivery systems, and nanotechnology-based real-time imaging has significantly improved the safety and the efficacy of neural stem cell-based treatments. This review provides a comprehensive background on the contribution of nanomedicine to the modulation of neurogenesis via neural stem cell differentiation.
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