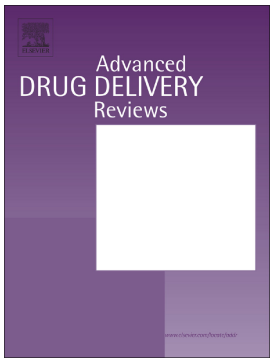

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Wound healing related agents: Ongoing research and perspectives

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ABSTRACT

Wound healing response plays a central part in chronic inflammation, affecting millions of people worldwide. It is a dynamic process that can lead to fibrosis, if tissue damage is irreversible and wound resolution is not attained. It is clear that there is a tight interconnection among wound healing, fibrosis and a variety of chronic disease conditions, demonstrating the heterogeneity of this pathology. Based on our further understanding of the cellular and molecular mechanisms underpinning tissue repair, new therapeutic approaches have recently been developed that target different aspects of the wound healing process and fibrosis. Nevertheless, several issues still need to be taken into consideration when designing modern wound healing drug delivery formulations. In this review, we highlight novel pharmacological agents that hold promise for targeting wound repair and fibrosis. We also focus on drug-delivery systems that may enhance current and future therapies.

Graphical abstract

Keywords: wound healing; fibrosis; drug delivery; inflammation; scarring; angiogenesis; liposomes; TGF-β; stem cells; epithelial-mesenchymal transition; EMT; bone regeneration; CNS regeneration

Contents