Cite this as: Yang GUO, Bo CHEN, Li-jun CHEN, Chun-feng ZHANG, Charlie XIANG, 2016. Current status and future prospects of mesenchymal stem cell therapy for liver fibrosis. *Journal of Zhejiang University-Science B (Biomedicine & Biotechnology)*. **17**(11):831-841. http://dx.doi.org/10.1631/jzus.B1600101

Current status and future prospects of mesenchymal stem cell therapy for liver fibrosis

Key words: Liver fibrosis, Cell therapy, Mesenchymal stem cells

JZUS-B

Research Summary

This review mainly discuss the current research regarding the mechanisms and uses of MSC therapy for liver fibrosis and the associated limitations. It concludes several parts as follows:

- *Mechanisms of fibrogenesis in the liver*
- *The differentiation ability of MSCs*
- *The paracrine effect of MSCs*
- *MSC therapy and immunoregulation*
- *MSC therapy and CRISPR/Cas9*
- *Current problems and future prospects*



JZUSB

Problems and prospects

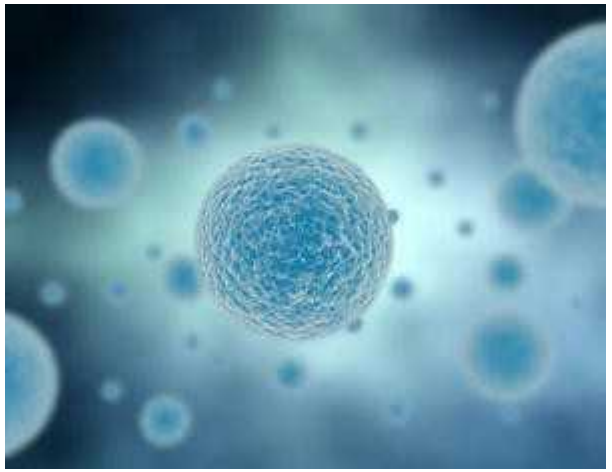
Problems:



1. There are different types of MSCs, which each have their respective advantages and disadvantages. And it's hard to decide which one is best.

2. The mechanisms underlying the therapeutic effects of MSCs is still not fully understand.

3. The oncogenic potential and the risks of using MSCs remain unknown.



Problems and prospects

Prospects:

1. The transplantation of MSCs for the treatment of liver fibrosis is an effective and promising method, considering the targeted migration ability, release capacity, and low immunogenicity of MSCs.

2. MSCs can also be combined with gene engineering to create a new method that can obviously regress fibrogenesis, promote regeneration, and restore the liver function.



IZUS-B