

Accepted Manuscript

Knockdown of TGF- β 1 expression in human umbilical cord mesenchymal stem cells reverts their exosome-mediated EMT promoting effect on lung cancer cells

Xiaoyin Zhao, Xue Wu, Manqing Qian, Yuxian Song, Dongliang Wu, Wen Zhang



PII: S0304-3835(18)30293-3

DOI: [10.1016/j.canlet.2018.04.026](https://doi.org/10.1016/j.canlet.2018.04.026)

Reference: CAN 13866

To appear in: *Cancer Letters*

Received Date: 18 February 2018

Revised Date: 13 April 2018

Accepted Date: 18 April 2018

Please cite this article as: X. Zhao, X. Wu, M. Qian, Y. Song, D. Wu, W. Zhang, Knockdown of TGF- β 1 expression in human umbilical cord mesenchymal stem cells reverts their exosome-mediated EMT promoting effect on lung cancer cells, *Cancer Letters* (2018), doi: 10.1016/j.canlet.2018.04.026.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Abstract

The effect of mesenchymal stem cells (MSCs) on lung cancer cells is controversial, and the underlying mechanisms remain unclear, which harms the utilization of MSCs in tumor therapy. In this study, we found that human umbilical cord MSC-conditioned medium (MSC-CM) promotes EMT, invasion, and migration, yet inhibits proliferation and promotes apoptosis of lung cancer cells. The EMT-promoting effect of MSCs was mediated by exosomes derived from MSCs (MSC-exo) and eliminated by inhibiting exosome release. Moreover, silencing TGF- β 1 expression in MSCs can revert the EMT-promoting effect and enhance the anti-proliferative and pro-apoptotic effect of MSCs on lung cancer cells via MSC-exo. Further investigation found that Smad2/3, Akt/GSK-3 β / β -catenin, NF- κ B, ERK, JNK, and p38 MAPK in TGF- β 1 signaling pathways could be activated by MSC-exo in lung cancer cells, while silencing TGF- β 1 expression in MSCs may deactivate these pathways. These findings suggest a method by which MSCs may be safely employed in lung cancer therapy.

Download English Version:

<https://daneshyari.com/en/article/8434344>

Download Persian Version:

<https://daneshyari.com/article/8434344>

[Daneshyari.com](https://daneshyari.com)