

عنوان مقاله:

mRNA Levels of Epithelial and Mesenchymal Markers in Lung Epithelial Cell Lines

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خلاصه مقاله:

Background: Epithelial-mesenchymal transition (EMT) is an important physiologic process that determines the outcome of lung tissue healing after injury. Stimuli and molecular cascades inducing EMT lead to up-regulation of the mesenchymal-specific genes in the alveolar epithelial cells and to down-regulation of the genes coding for epithelial markers. Alveolar epithelial cell lines are commonly used as in vitro models to study processes occurring in the lung tissue. The aim of this study is to quantify and compare mRNA expression levels of epithelial and mesenchymal markers in a number of lung epithelial cell lines. Methods: Lung epithelial cell lines L₂, R^{3/1} and RLE- β TN were cultured. Repeated mRNA isolation, reverse transcription, and quantitative PCR with primers to epithelial (E-cadherin, occludin, and ZO- γ) and mesenchymal (α -SMA, collagen III, and vimentin) markers were performed. Results: First, our study revealed a higher level of epithelial transcripts in the RLE- β TN cell line compared to L₂ and R^{3/1} cells. Secondly, we have found simultaneous mRNA expression of both epithelial (E-cadherin, occludin and ZO- γ) and mesenchymal (α -SMA, collagen III and vimentin) markers in all cell lines studied. Conclusions: Our data indicate that at the transcriptional level the L₂, R^{3/1}, and RLE- β TN cell lines are at one of the intermediate stages of EMT, which opens new possibilities for the study of EMT on cell lines. Determination of the direction of changes in epithelial and

mesenchymal markers will make it possible to establish the factors responsible for both EMT and reverse
.mesenchymal-epithelial transition

کلمات کلیدی:

.Cell Line, Epithelial-Mesenchymal Transition, Lung, mRNA

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