

Induction of the myofibroblastic phenotype in human gingival fibroblasts by transforming growth factor- β 1: Role of RhoA-ROCK and c-Jun N-terminal kinase signaling pathways

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Background and Objectives: Myofibroblastic differentiation is an important event in gingival wound healing and chronic inflammation. Transforming growth factor- β 1 (TGF- β 1) is a potent growth factor that has been implicated in this process. Gingival myofibroblasts have an increased ability to remodel the extracellular matrix and this feature has been associated with changes in the distribution of F-actin and the expression of the myofibroblast marker α -smooth muscle actin. In the present study we have analyzed the role of TGF- β 1 and the signaling routes activated by this factor in the cytoskeletal changes that characterize the myofibroblastic differentiation process in human gingival fibroblasts. **Materials and methods:** The signalling pathways involved in myofibroblastic differentiation were studied in primary cultures of human gingival fibroblasts using several signal transduction inhibitors. RhoA activation was analyzed through a pull-down assay. Distribution of focal adhesions and ac