mRNA Relative Expression of Cancer Associated Fibroblasts Markers in Keloid Scars

Authors: Sari, Dewi; Hambarita, Ningwyni; Sri Susetyo; Anbariarto, Radiana; Shamsiyati, Sullin; Mohammadi, Hadisari; Tirtosudiro, Indra; Listyo, S.; Sudiarti, S.

Source: Advanced Science Letters, Volume 23, Number 7

Document Type: Research Article

Abstract: Background: fibroblast activities showed similarity with the tumor in terms of activation of fibroblasts. Fibroblasts are activated into active proliferated myofibroblasts and also increase the extracellular matrix expression. The activated fibroblasts may have similar characteristics with CAFs because their high activity, but their similar characteristics are not fully understood. Here, we conducted a relative mRNA-expression analysis of CAF markers, including α-SMA and FAP, which are involved in the production of extracellular matrix and contraction of tissue. FAP associates with growth and development of keloid. α-SMA and FAP are known as markers of CAFs. This study analyzed the expression of α-SMA and FAP in activated fibroblasts of keloid tissues compared to normal skin tissue. Methods: Total RNA was extracted from the core margin of keloid biopsies and from normal proximal skin samples as controls. qRT-PCR was used to analyze the expression of α-SMA and FAP. The results showed that α-SMA expression was higher in keloid compared to normal skin (p < 0.05). Conclusions: The mRNA expression of CAF markers in keloid tissue showed similarities with CAFs which indicated higher expression of α-SMA and FAP compared to normal tissue.

Keywords: CAF; FAP; Fibroblasts; Keloid; α-SMA