

ETS1 AND SENESENCE ASSOCIATED SECRETORY PHENOTYPE INDUCTION IN HUMAN SMALL INTESTINAL FIBROBLASTS

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In vitro study shows inflammatory cytokines IL-1 β , PDGF, and TNF- α induce senescence markers in human intestinal fibroblasts, with transcription factor ETS1 playing a dual regulatory role in inflammation and extracellular matrix remodeling.

KEY POINTS

- Treatment of human small intestinal fibroblasts with IL-1 β , PDGF, and TNF- α significantly increased expression of senescence-associated secretory phenotype factors including IL-1 α , IL-1 β , IL-8, and Serpine1.
- PDGF treatment increased expression of cell cycle arrest markers P21 and P16, while multiple cytokines induced the transcription factor ETS1.
- Depletion of ETS1 reduced IL-1 β -induced expression of IL1B, IL1A, and CHI3L1, but increased SERPINE1 and ADAM12 expression.
- The authors suggest ETS1 may function as a double-edged sword, inducing inflammation while repressing expression of extracellular matrix remodelers in intestinal fibroblasts.
- This basic science work may interest researchers studying fibrosis mechanisms in Crohn's disease, particularly those investigating senescence pathways in intestinal myofibroblasts.

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