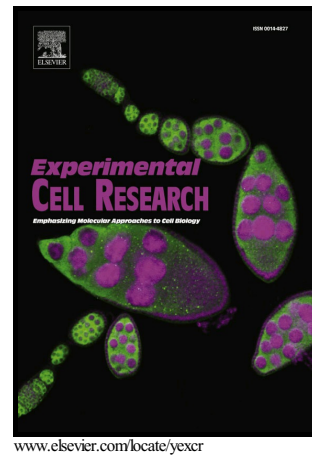


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## Regulation of Connexin 43 Expression in Human Gingival Fibroblasts

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### ABSTRACT

#### *Aims*

Abundance of connexin 43 (Cx43), a transmembrane protein that forms hemichannels (HCs) and gap junctions (GJs), is dynamically regulated in human gingival fibroblasts (GFBLs) during wound healing. This may be important for fast and scarless gingival wound healing as Cx43 is involved in key cell functions important during this process. Our aim was to uncover the factors that regulate Cx43 expression and abundance in GFBLs. We hypothesized that cytokines and growth factors released during wound healing coordinately regulate Cx43 abundance in GFBLs.

#### *Results*

TGF- $\beta$ 1, - $\beta$ 2, - $\beta$ 3, PGE2 and IL-1 $\beta$  significantly upregulated, while TNF- $\alpha$  and IFN- $\gamma$  downregulated Cx43 in cultured GFBLs. TGF- $\beta$ 1, - $\beta$ 2, - $\beta$ 3, IL-1 $\beta$  and IFN- $\gamma$  modulated Cx43 abundance at both mRNA and protein levels, while TNF- $\alpha$  and PGE2 regulated only Cx43

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