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Effects of shear stress on differentiation of stem cells into endothelial cells

Huang Y *et al.* FSS-induced endothelial differentiation

Yan Huang, Jia-Yi Qian, Hong Cheng, Xiao-Ming Li

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The average VEGF protein concentration in **supernatants secreted** by **shear stress** treated **SHEDs** groups increased significantly. In conclusion, **shear stress** was able to **induce arterial endothelial differentiation of stem cells** from human exfoliated deciduous teeth, and VEGF-DLL4/Notch-EphrinB2 signaling was involved in this process.

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Methods

Results

Discussion

The current study demonstrates that shear stress significantly induces expression of mature endothelial cell-specific markers such as CD31, vWF, and VE-cadherin at both the mRNA and protein levels in a murine embryonic mesenchymal progenitor cell line. In addition, **shear induces augmentation of functional markers of the mature endothelial phenotype** such as uptake of ac-LDL and formation of tube-like structures on Matrigel. Then, in an attempt to elucidate a possible mechanism by which differenti...

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