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Wnt2 Participates in PDL Cells' Proliferation under Mechanical Loading

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Objective: To investigate the expression of genes related to cell proliferation and members in Wnt family in human periodontal ligament cells (hPDLCs) after a mechanical stress loading.
Methods: A 2000-lstrain mechanical compression stress was loaded on hPDLCs for 0, 4, and 24 hrs respectively. The total RNA of the hPDLCs was extracted and PCRarray was carried out to detect the mRNA expression of genes related to cell proliferation and members in Wnt family before and after the loading.
Results: The expression of Cyclin 2 (CCND2) mRNA was up-regulated by 3.48 and 4.37 folds and WNT1 inducible signaling pathway protein 1 (WISP1) mRNA was up-regulated by 4.29 and 5.20 folds at 4 and 24 hrs respectively, while Wnt2 mRNA was up-regulated by 83.3 and 155.52 folds.
Conclusions: Wnt2 participates in hPDLCs' proliferation under mechanical loading.