論文名：Isolation and characterization of lymphoid enhancer factor-1 positive deciduous dental pulp stem-like cells after transfection with a *piggyBac* vector containing *LEF1* promoter-driven selection markers（要約）

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Lymphoid enhancer-binding factor-1 (LEF1) is a 48 kD nuclear protein that is expressed in pre-B and T cells. LEF1 is also an important member of the Wnt/β-catenin signaling pathway that plays important roles in the self-renewal and differentiation of embryonic stem cells. We speculated that LEF1 might function in the stem cells contained among human deciduous dental pulp cells (HDDPCs). In this study, we attempted to isolate such LEF1-positive cells from HDDPCs by genetic engineering technology using the human *LEF1* promoter. A *piggyBac* transposon plasmid (pTA-LEN) was introduced into HDDPCs using the Neon® transfection system. After G418 selection, the emerging colonies were assessed for EGFP-derived fluorescence by fluorescence microscopy. Reverse transcription polymerase chain reaction (RT-PCR) analysis was performed using RNA isolated from these colonies to examine stem cell-specific transcript expression. Osteoblastic or neuronal differentiation was induced by cultivating the LEF1-positive cells with differentiation-inducing medium. RT-PCR analysis confirmed the expression of several stem cell markers including *OCT3/4*, *SOX2*, *REX1*, and *NANOG* in LEF1-positive HDDPCs, which could differentiate into osteoblasts and neuronal cells. Thus, the isolated LEF1-positive HDDPCs exhibited the properties of stem cells, suggesting that LEF1 might serve as a marker for HDDPC stem cells.