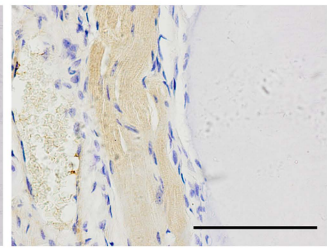
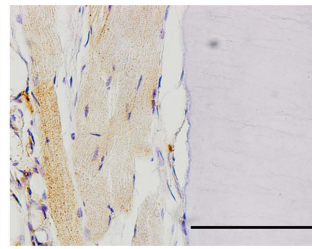
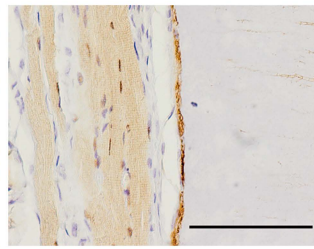
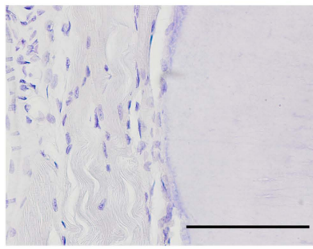
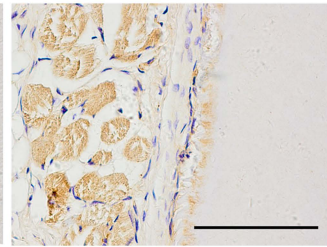
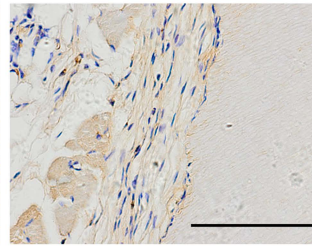
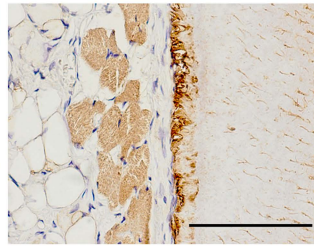
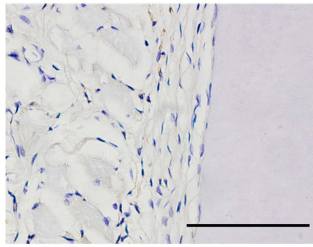
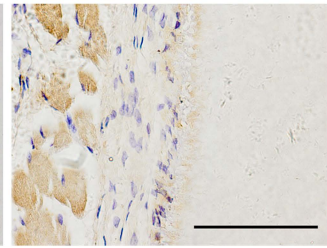
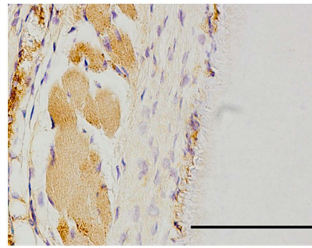
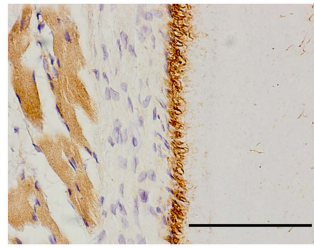
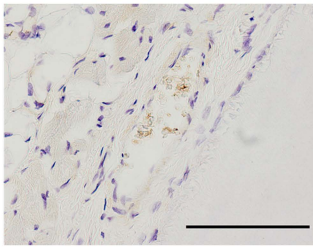
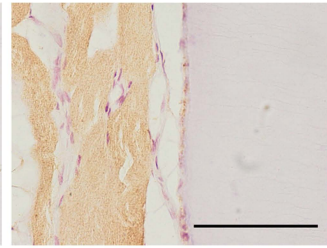
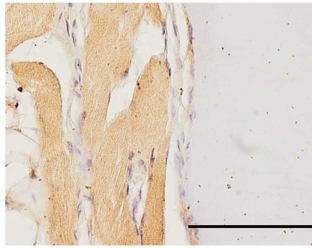
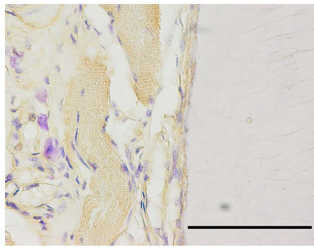
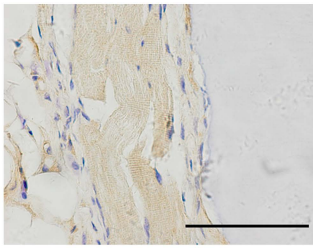
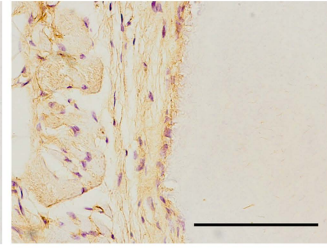
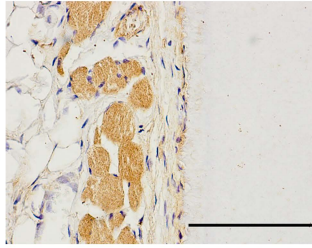
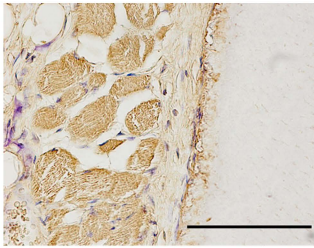
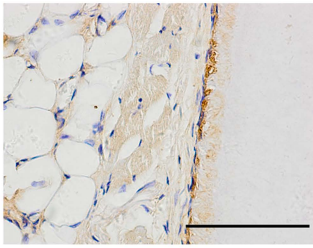
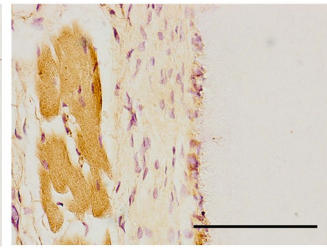
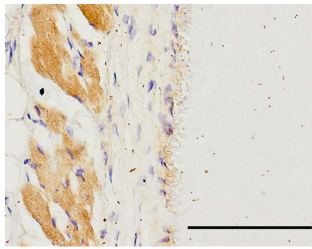
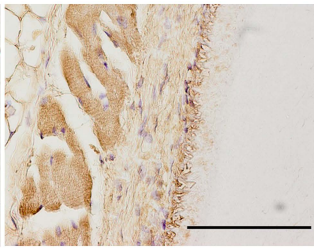
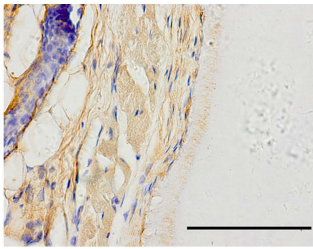


**Blank****DMP-1****DSP****COL-1****TDM****DFCSs/TDM****SHEDSs/TDM****Periostin****OCN****TGF- $\beta$ 1** **$\beta$ -Tubulin III****TDM****DFCSs/TDM****SHEDSs/TDM**

**Supplement Fig.1.** Immunohistochemical examination of bio-root regeneration by the composites after 8 weeks in nude mice. The regenerated periodontal ligament-like tissues, including dentinal tubules, predentin and periodontal ligament fibers, were positive for DMP-1, DSP, COL-1, Periostin, OCN, TGF- $\beta$ 1 and  $\beta$ -Tubulin III staining in both the DFCSs/TDM and SHEDSs/TDM groups. However, no newly formed tissues were observed in the control group (TDM alone), and only murine subcutaneous muscle tissues were positively stained with antibodies against the proteins listed above. The negative control PBS was substituted for the primary antibody and showed no staining (Blank). Scale bars =100  $\mu$ m.