

Fig. S1. Morphology of *Msx1^{-/-};Tbx2^{+/-}* rescued upper molar. (A-E) Representative stages taken from serial sectioning of an E15.5 *Msx1^{-/-};Tbx2^{+/-}* rescued upper molar. Each section is ~5 μ m in thickness and each stage is ~5-10 sections in length. Scale bar: 0.1 mm.

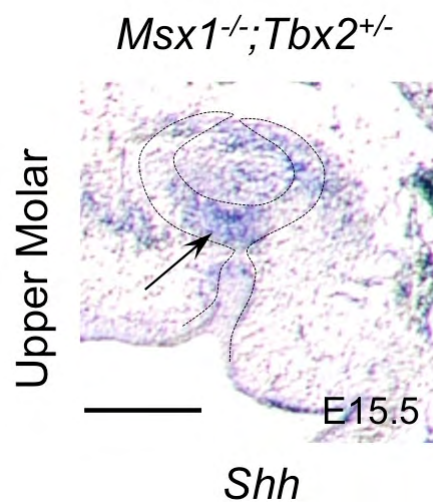


Fig. S2. Expression of *Shh* in the *Msx1^{-/-};Tbx2^{+/-}* rescued upper molar. In the E15.5 *Msx1^{-/-};Tbx2^{+/-}* rescued upper molar, *Shh* expression is detected, indicating the presence of an enamel knot (arrow). Scale bar: 0.1 mm.

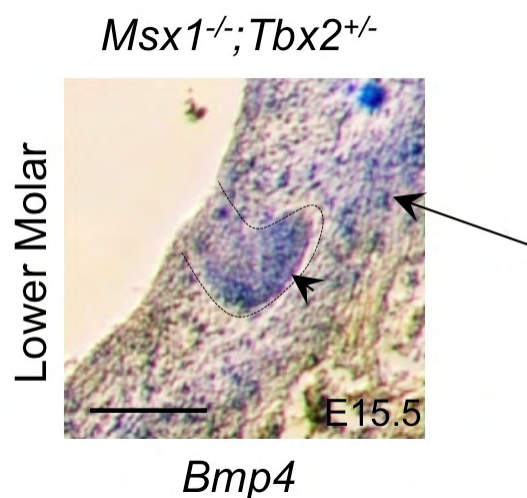


Fig. S3. No expression of *Bmp4* in the *Msx1^{-/-};Tbx2^{+/-}* lower molar mesenchyme. In an E15.5 *Msx1^{-/-};Tbx2^{+/-}* lower molar, *Bmp4* expression in the dental mesenchyme is not detected to any significant degree. The section was overdeveloped in order to detect any expression. The faint mesenchymal expression (arrow) is not significantly above background; however, there appears to be residual epithelial expression of *Bmp4* (arrowhead). Scale bar: 0.1 mm.