

## **Runx1-Stat3 signaling regulate the epithelial stem cells in continuously growing incisors.**

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## Supplemental Table

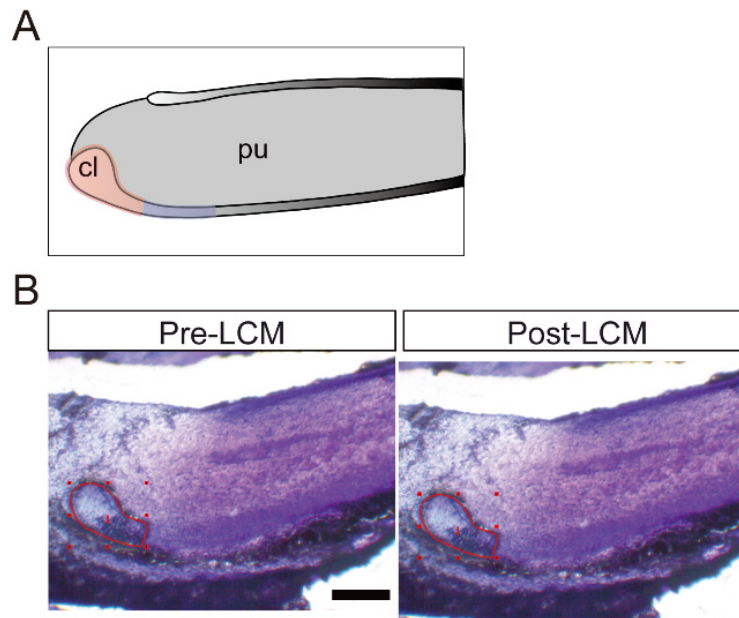
### (A) Primers for *in situ* hybridization

	Forward Primer	Reverse Primer
<i>Runx1</i>	AGCATGGTGGAGGTAAGCTG	GCGCCGTAGTATAGATGGTAGG
<i>Runx2</i>	CGAGGCAAGAGTTTCACCTTG	CTCATCCATTCTGCCGCTAGA
<i>Runx3</i>	AACTTCCTCTGCTCCGTGCTG	GTTTCATGAGGTTGCCTGCTGA
<i>Cbfb</i>	ATGGTATGGGTTGCCTGGAG	TCAGGCCATGAAACCAACTGC
<i>Amel</i>	ACCTCATCCTGGAAGCCC	TCTTCCCGCTTGGTCTTG
<i>Stat3</i>	GAGGCCCTCCCAACATCT	TTCATTCAAAGGGCCAA
<i>Lgr5</i>	ACTCCCCTGTACATCTCTTCCA	ATCTCATCCAGAAACGGGTATG
<i>Sox2</i>	CAGCGCATGGACAGCTAC	GTCGGCATCACGGTTTTT

### (B) Primers for qPCR

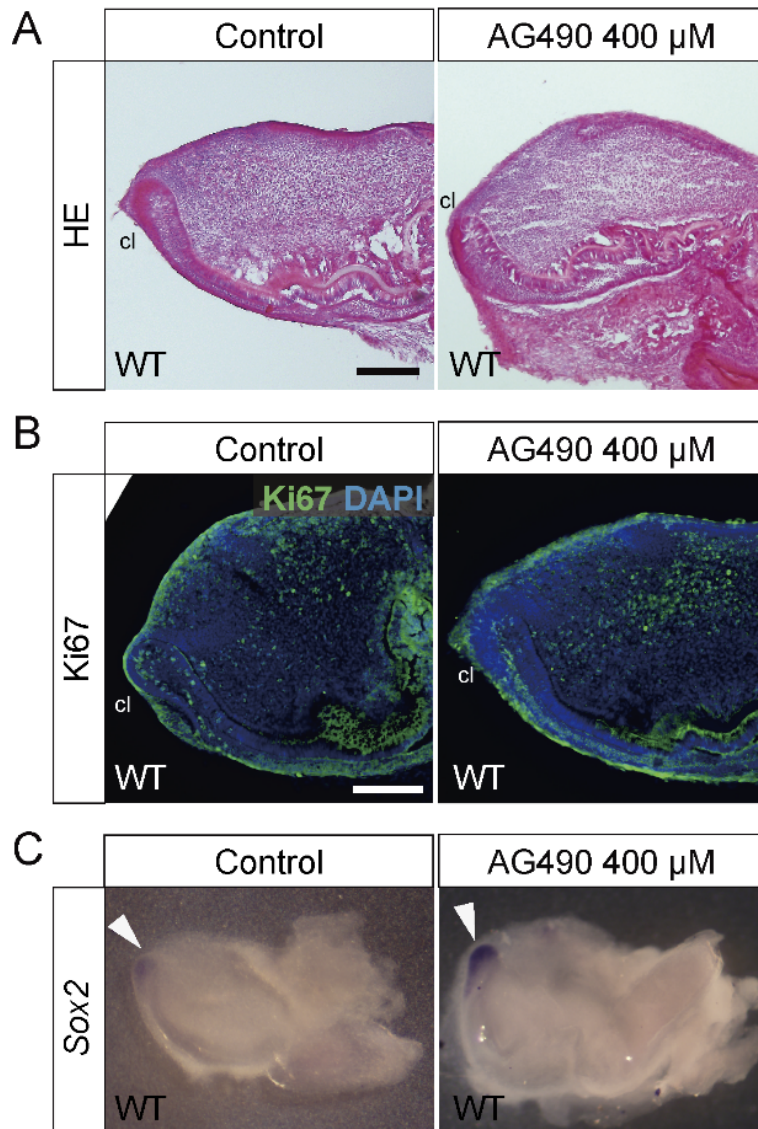
	Forward Primer	Reverse Primer
<i>Gapdh</i>	AACTTTGGCATTGTGGAAGG	ACACATTGGGGGTAGGAACA
<i>Lgr5</i>	CGGGACCTTGAAGATTCCT	GATTCGGATCAGCCAGCTAC
<i>Sox2</i>	GCACATGAACGGCTGGAGCAACG	TGCTGCGAGTAGGACATGCTGTAGG
<i>Amel</i>	TCCTGGAAGCCCTGGTTATATC	GTTGAGACAGCACAGGGATG
<i>Enam</i>	GGAACCACCAAATGAAGCAG	CCAAAGCCGTGATATCCAAA
<i>Ambn</i>	TTCCCATGGATAGGACCAAG	ATCAGCTCTCCTTCCTGCAA
<i>Mmp20</i>	AGCAAGAGAGGAGATGAAGGTGCT	AAGGTGGTAGTTGCTCCTGAAGGT
<i>Socs3</i>	CAAGAACCTACGCATCCAGTG	CCAGCTTGAGTACACAGTCAA
<i>Stat3</i>	CTTGTCTACCTCTACCCGACAT	GATCCATGTCAAACGTGAGCG
<i>Bcl-2</i>	TGAGTACCTGAACCGGCATCT	GCATCCCAGCCTCCGTTAT
<i>Bax</i>	CCCGAGAGGTCTTTTTCC	GCCTTGAGCACCAGTTTG

## Supplemental Figure S1



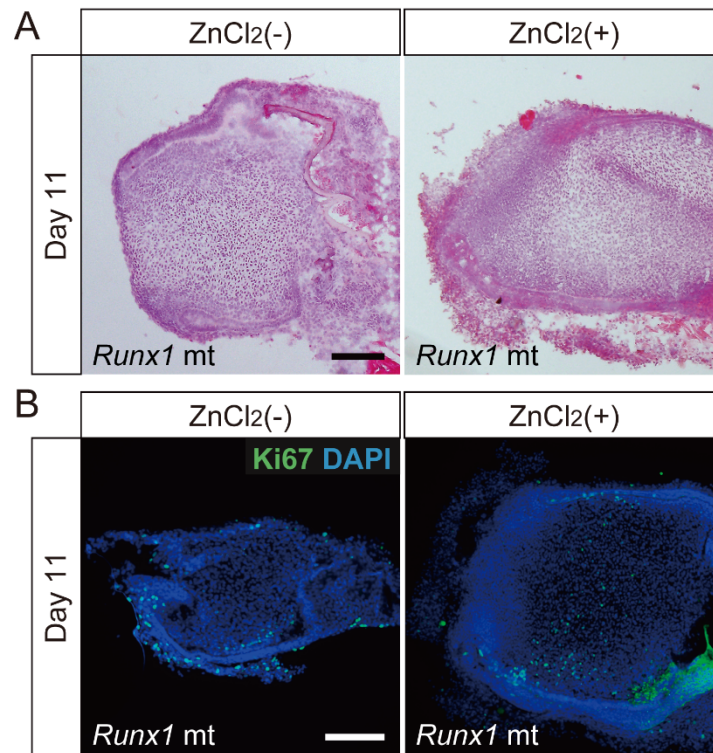
**Supplemental Figure S1.** (A) A schematic representation of the dissecting region of the cervical loop and the neighboring incisal epithelium. (B) Representative samples Pre- and Post-laser microdissection from sections of the cervical loop. Bar=200  $\mu$ m. cl, cervical loop; pu, pulp.

## Supplemental Figure S2



**Supplemental Figure S2.** *in vitro* culture of the incisors and Stat3 inhibitor treatment. (A) HE staining and (B) immunostaining for Ki67(green) demonstrated that explanted tooth germs remained viable over six days of organ culture. Scale bar: 200  $\mu\text{m}$ . (C) Whole-mount in situ hybridization showed that Sox2 expression was evident in the cervical loop and upregulated in the AG490 treated samples. Arrowheads: Sox2 expression in the cervical loop.

## Supplemental Figure S3

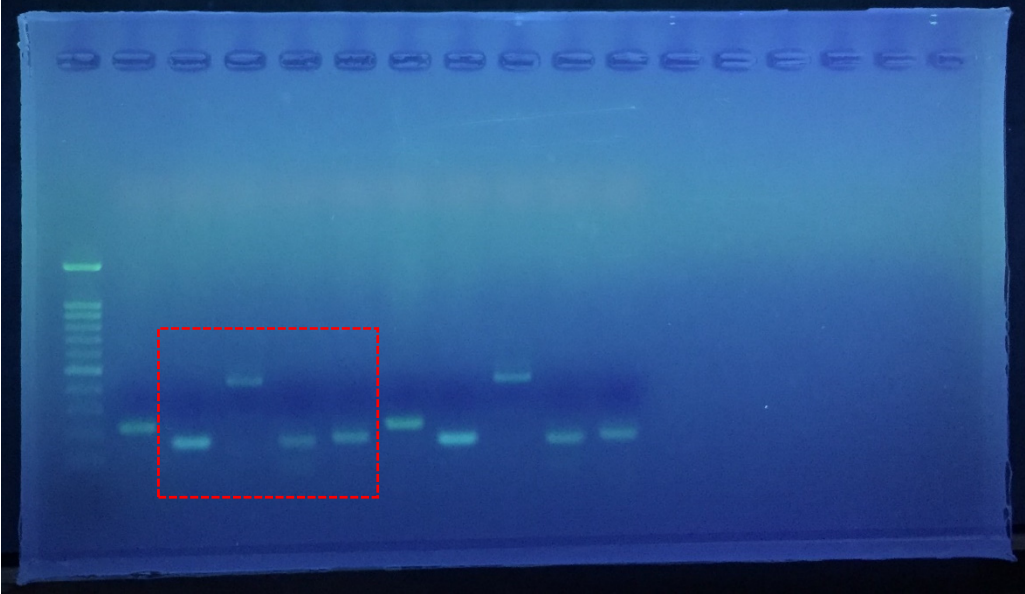


**Supplemental Figure S3.** In vitro culture of the *Runx1* mutant incisors and ZnCl<sub>2</sub> treatment. (A) HE staining and (B) immunostaining for Ki67(green) showed that the explanted tooth germs remained viable over 11 days of organ culture. Scale bar: 200  $\mu$ m. Nuclei were counterstained with DAPI (blue).

# Supplemental Figure S4

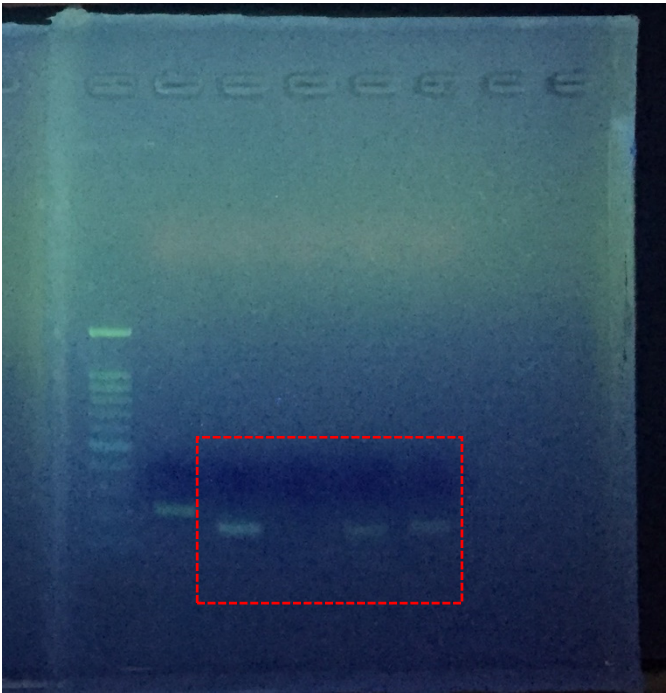
Epithelium

Gapdh  
Cbfb  
Runx1  
Runx2  
Runx3



Mesenchyme

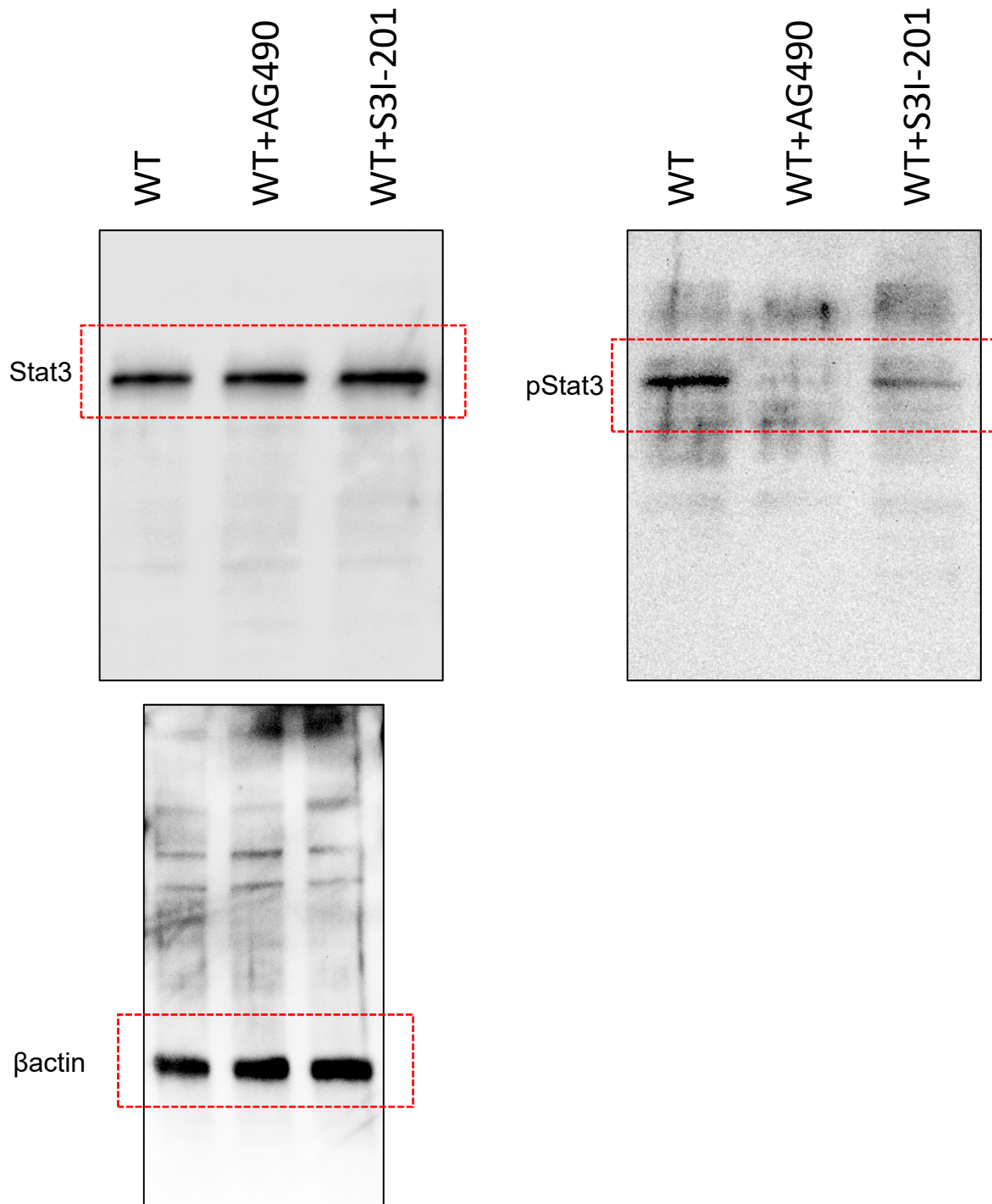
Gapdh  
Cbfb  
Runx1  
Runx2  
Runx3



Supplemental Figure S4. Full-length PCR products from the dissected epithelium and mesenchyme in Figure 1A. The red, dotted lines show the cropping locations.

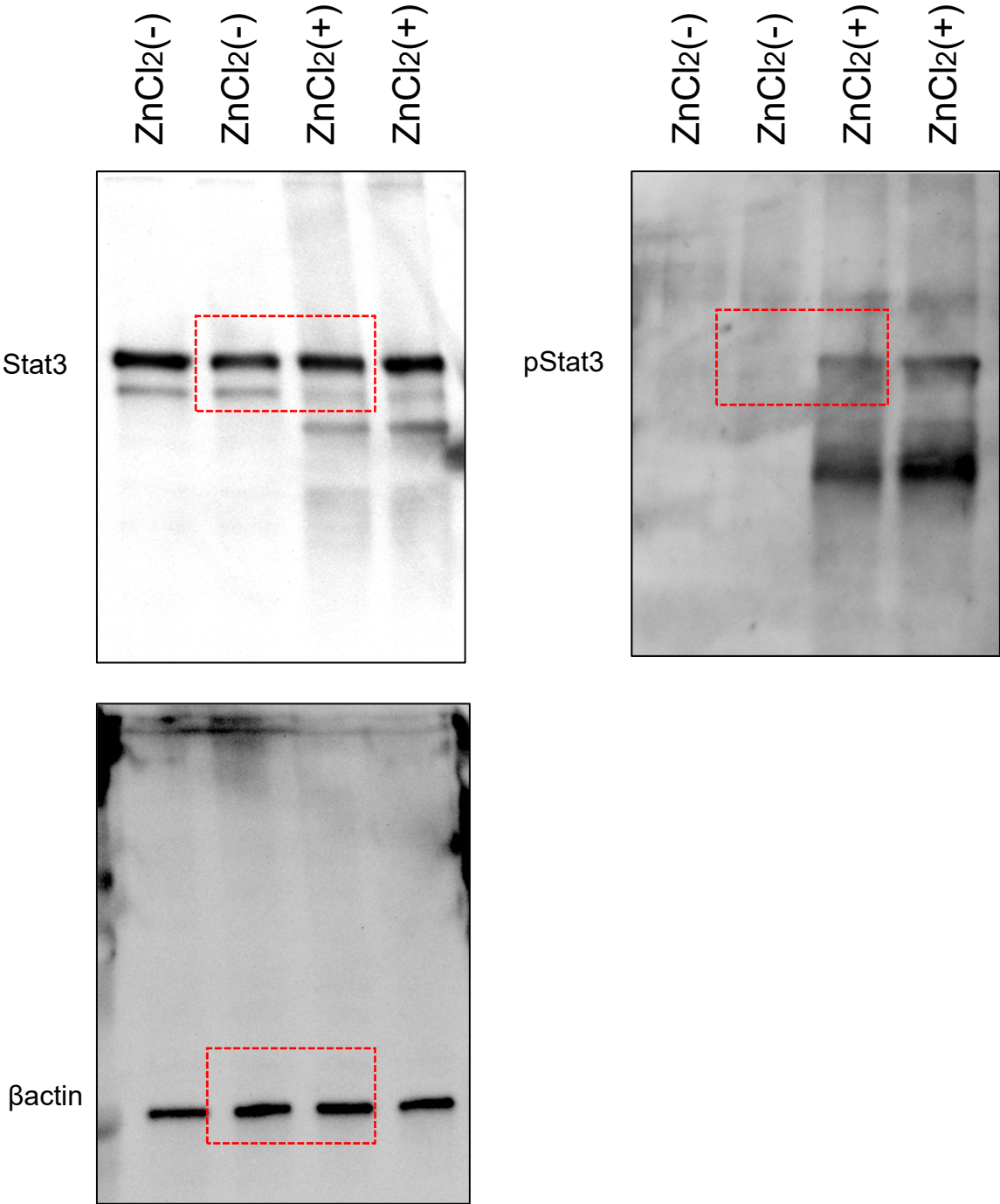


Supplemental Figure S5



**Supplementary Figure S5.** Full-length blots of Stat3, pStat3 and βactin in the primary palatal tissue with or without Stat3 inhibitors (shown as cropped images in Figure 4A).

Supplemental Figure S6



**Supplementary Figure S6.** Full-length blots of Stat3, pStat3 and βactin in the primary palatal tissue with or without Stat3 inhibitors (shown as cropped images in Figure 5A).