

**S3 Table: Ectopic Grem1 protein causes differences in the morphogenesis of cultured palatal shelves.**

Areas enclosed by 10 pairs (control) and 6 pairs (Grem1-treated) of palatal shelves were measured using imagej (<http://imagej.nih.gov/ij/>) at 0 hours (A), 24 hours and 48 hours (A'), respectively. The differences between A and A' ( $\delta A$ ) were not significant in the controls but the areas increased significantly in the Grem1-treated samples ( $P = 0.00136$ ). A comparison between  $\delta A$  of controls and  $\delta A$  of Grem1-treated samples revealed a significant difference ( $P = 0.00142$ ).

<b>Control</b>				<b>Grem1-treated</b>			
	0 hours	48 hours			0 hours	48 hours	
Sample	A	A'	$\delta A(A'-A)$	Sample	A	A'	$\delta A(A'-A)$
1	11687	7512	-4175	1	11129	14905	3776
2	11028	8967	-2061	2	12345	18431	6086
3	17320	15071	-2249	3	10996	21259	10263
4	14192	9488	-4704	4	23362	36290	12928
5	31420	26432	-4988	5	27414	37293	9879
6	30256	27533	-2723	6	31113	36136	5023
7	22689	24721	2032			Average	7992.5
8	25107	33106	7999			STDev	3558.22
9	36827	36921	94				
10	25796	31450	5654				
		Average	-512.1				
		STDev	4455.03				
						<b>Control A vs A'; P =</b>	<b>0.36231</b>
						<b>Grem1-treated A vs A'; P =</b>	<b>0.00136</b>
						<b>Control <math>\delta A</math> vs Grem1-treated <math>\delta A</math>; P =</b>	<b>0.00142</b>