

Table S1. List of primer sequences.

Purpose	Gene	Primer sequences (5' ->3')	
Gene targeting	<i>Sumo2</i>	5'homologous arm forward: GATATAGGTACCGTTGAGTAGGGGTGAGAAACG	
		5'homologous arm reverse*: AATATAGTCGAC <u>TCATTA</u> TTTCTCGTCGGCCATGGCGAGC	
	<i>Sumo3</i>	5'homologous arm forward: ATAAATGGCGCGCCATGCGTCCTTGTGGAAGACC	
		5'homologous arm reverse*: CTATAAGTCGAC <u>TCATTA</u> CTTCTCTTCCGACATGGTTGC	
Genotyping	<i>Sumo2</i>	Forward: AAGCGGCAGCCAATGAGAAGC Reverse: CACCGGTCCGCACGGTGAGG Reverse: TCAGGGTTATTGTCTCATGAGC	
		<i>Sumo3</i>	Forward: ATTCGCAACCGTCCTGAATCG Reverse: AATCTGCTGCGGCTTGCGTACC Reverse: TCAGGGTTATTGTCTCATGAGC
	Whole-mount in situ hybridization		<i>Sumo1</i>
		<i>Sumo2</i>	
<i>Sumo3</i>			Forward: AGCGTGACTCGCCCGCTC Reverse: CCTGGCCACAGGAGGAAG
		<i>Hnf4</i>	Forward: CACAGCCATCACCACCAA Reverse: ACAGATGCAAAGCTCGCC;
<i>Brachyury</i>			Forward: TGAGAGGTACCCAGCTCTAAGG Reverse: GGACCCTACCTAGCAAAGGACT
		<i>Otx2</i>	Forward: TCCAGCTCGGGAAGTGAG Reverse: AGGCCATGACCTTCCCTC
qRT-PCR	<i>Sumo1</i>	Forward: CAGGAGGCAAACCTTCAAC Reverse: CTCCATTCCCAGTTCTTTCG	
	<i>Sumo2</i>	Forward: ACGAGAAACCCAAGGAAGGA Reverse: CTCCATTCCAAGTGTGCAG	
	<i>Sumo3</i>	Forward: AGAAGCCCAAGGAGGGTGT Reverse: CCTCGGGAGGCTGATCCT	

\* Two in-frame stop codons are marked as boxed text and the star codons are marked as underlined.