Supplementary Table 1. Effects of morpholino oligonucleotides

Type of embryo	Gene tested	Stage	Number of embryos			Figure	Description
			Down	No effect	Up		
jam1a MOatg	*runx1*	26hpf	37	0	0	Fig. 1g	
jam1a MOatg	*efnb2a*	26hpf	0	14	0	Fig. 1j	
jam1a MOatg	*cmyb*	36hpf	36	7	0	Fig. 1l	
jam1a MOatg	*rag1*	4dpf	22	0	0	Fig. 1m	
jam1a MOatg	*scl-α/β*	30hpf	16	0	0	Fig. 1n	Full-length *scl* probe
jam1a MOatg	*scl-α*	30hpf	0	17	0	Fig. 1o	5' *scl* probe
jam1a MOatg	*fli1*	12hpf	0	20	0	Fig. 2b	
jam1a MOatg	*fli1*	17hpf	27*	3	0	Fig. 2e	
jam1a MOatg	*dlc*	14hpf	0	20	0	Fig. 4o	
jam1a MOatg	*dld*	14hpf	0	24	0	Fig. 4q	
jam1a MOatg	*runx1*	28hpf	24	3	0	Fig. 4s	*jam1a* MOatg only
jam1a MOatg	*runx1*	28hpf	4	20**	0	Fig. 4t	*jam1a* MOatg + *dlc*
jam1a MOatg	*runx1*	28hpf	5	26***	0	Fig. 4u	*jam1a* MOatg + *dld*
jam1a MOatg	*gata1*	24hpf	0	18	0	E.D. Fig. 4d	
jam1a MOatg	*l-plastin*	24hpf	0	13	0	E.D. Fig. 4e	
jam1a MOatg	*l-plastin*	4dpf	33	2	0	E.D. Fig. 4f	Expression in the CHT
jam1a MOatg	*kdrl*	26hpf	0	20	0	E.D. Fig. 4g	Expression in the trunk
jam1a MOatg	*kdrl*	26hpf	20	0	0	E.D. Fig. 4h	Expression in the CHT
jam1a MOatg	*tbx20*	26hpf	0	13	0	E.D. Fig. 4i	
jam1a MOatg	*flt4*	26hpf	0	14	0	E.D. Fig. 4j	
jam1a MOatg	*cdh17*	24hpf	0	24	0	E.D. Fig. 4k	
jam1a MOatg	*desma*	26hpf	0	21	0	E.D. Fig. 4l	
jam1a MOatg	*nkx3.1*	26hpf	0	24	0	E.D. Fig. 4m	
jam1a MOatg	*shha*	16hpf	0	17	0	E.D. Fig. 4n	
jam1a MOatg	*shha*	26hpf	0	17	0	E.D. Fig. 4o	
jam1a MOatg	*vegfa*	17hpf	0	23	0	E.D. Fig. 4p	
jam1a MOatg	*vegfa*	26hpf	0	17	0	E.D. Fig. 4q	
jam1a MOatg	*runx1*	26hpf	47	4	0	E.D. Fig. 7b	*hsp:Gal4/UAS:NICD* (-)
jam1a MOatg	*runx1*	26hpf	1	4	15	E.D. Fig. 7b	*hsp:Gal4/UAS:NICD* (+)
jam1a MOatg	*runx1*	26hpf	59	1	0	E.D. Fig. 7d	*fli1:Gal4/UAS:NICD* (-)
jam1a MOatg	*runx1*	26hpf	0	0	22	E.D. Fig. 7d	*fli1:Gal4/UAS:NICD* (+)
jam1a MOatg	*notch1b*	26hpf	0	15	0	E.D. Fig. 9b	
jam1a MOatg	*notch3*	26hpf	0	17	0	E.D. Fig. 9d	
jam1a MOatg	*dlc*	26hpf	0	12	0	E.D. Fig. 9f	
jam1a MOatg	*dll4*	26hpf	0	17	0	E.D. Fig. 9h	
jam1a MOatg	*Tp1:GFP*	28hpf	7	1	0	E.D. Fig. 9j	*jam1a* MOatg only
jam1a MOatg	*Tp1:GFP*	28hpf	3	5	0	E.D. Fig. 9k	*jam1a* MOatg + *dlc*
jam1a MOatg	*Tp1:GFP*	28hpf	2	6	0	E.D. Fig. 9l	*jam1a* MOatg + *dld*
jam1a MOex7	*runx1*	26hpf	24	5	0	Fig. 1h	
jam1a MOex7	*efnb2a*	26hpf	0	13	0	Fig. 1k	
jam1a MOex7	*fli1*	12hpf	0	20	0	Fig. 2c	
jam1a MOex7	*fli1*	17hpf	27*	4	0	Fig. 2f	

jam1a MOex7	*cmyb*	36hpf	13	3	0	E.D. Fig. 3g	
jam1a MOex7	*rag1*	4dpf	25	0	0	E.D. Fig. 3i	
jam2a MOatg	*runx1*	26hpf	33	2	0	Fig. 3h	
jam2a MOatg	*efnb2a*	26hpf	1	29	0	Fig. 3j	
jam2a MOatg	*fli1*	17hpf	26*	1	0	Fig. 3k	
jam2a MOatg	*runx1*	26hpf	41	0	0	E.D. Fig. 7e	*hsp:Gal4/UAS:NICD* (-)
jam2a MOatg	*runx1*	26hpf	1	14	0	E.D. Fig. 7e	*hsp:Gal4/UAS:NICD* (+)
jam2a MOatg	*runx1*	26hpf	35	12	0	E.D. Fig. 7f	*fli1:Gal4/UAS:NICD* (-)
jam2a MOatg	*runx1*	26hpf	0	0	14	E.D. Fig. 7f	*fli1:Gal4/UAS:NICD* (+)
jam2a MOex5	*runx1*	26hpf	23	3	0	E.D. Fig. 5f	
jam2a MOex5	*efnb2a*	26hpf	0	24	0	E.D. Fig. 5h	
jam2a MOex5	*cmyb*	36hpf	17	4	0	E.D. Fig. 5j	
jam2a MOex5	*rag1*	4dpf	17	0	0	E.D. Fig. 5l	

'Down' and 'Up' denote downregulation and upregulation of each gene, respectively. *The migration of *fli1*$^{+}$ cells is delayed. **The expression of *runx1* is partially restored. ***The expression of *runx1* is almost fully restored. E.D. Fig., Extended Data Figure.

Supplementary Table 2. Primer sequences for cDNA cloning, RT-PCR, and qPCR

Gene symbol	GenBank Accession #	Primers for cDNA cloning	
		Forward	Reverse
jam1a (*f11r*)	NM_001004667	TCGTCACAGGCATACATGGT	GAATCCGTTAGCCTCATCCA
jam2a	NM_001098264	AGTGGAGGTGCACGAGTTCT	CAGAACCACAGCTGAGACCA
dll4	NM_001079835	GCATTTTTCACGACCGTTTT	ATGATCCGTGCAAAGACCTC
scl-5'	NM_213237	AAACCTCAGACATGGATGACC	CTTGAGCTCCCTGCCTTTTA
cdh17	NM_194422	ATGAAAGCTGAAGCCAAGGA	AATGACGCCGAATACTCCTG
		Primers for RT-PCR	
		Forward	Reverse
jam1a (*f11r*)	NM_001004667	GGTGTCTGGAAGTGGTGGAT	AAAAGCCAATATGCAAAATGAA
jam2a	NM_001098264	GATCGCGCAGATATTGAAGG	TCGGCTGAAATATCCCTGTC
ef1a	NM_131263	CAAGGAAGTCAGCGCATACA	TGATGACCTGAGCGTTGAAG
		Primer for qPCR	
		Forward	Reverse
jam1a (*f11r*)	NM_001004667	ATTTGGAGTTCCCGAGTGTG	TGGCAGATATCCCTTTTTGC
jam2a	NM_001098264	GCATCGAGTGGAAGAGGAAA	GGTTTCTCCCAGTGAGATGG
ef1a	NM_131263	ACCGGCCATCTGATCTACAA	CAATGGTGATACCACGCTCA
notch1a	NM_131441	AGCATGATGTGAACGAGTGC	CCGTTCTTACAGGGAGACGA
notch1b	NM_131302	AAACGACGCCACCTGTTTAG	GCACTCGCATTGGTAGTTGTT
notch3	NM_131549	TGTGACCTAGACCGAAACGA	CACACAGGTGCCCTGATTTA
runx1	NM_131603	CAAGTGGCCACATATCAGAG	CTGCTCAGAGAAAGCTAACG