

**S4 Table. List of primers.**

Primer	Sequence 5' to 3'	Position to TSS	Reference
Antp-P1	CGTGGGCTAAGTCAACGGAA	0	
	AAGGAGTTCTCGCTGGGATT		
Antp-P1 +0.1K	AGAGCCCAGCCCCAAGATA	+0.1 kb	
	CAACAAAGCACTCGAGGACC		
Antp-P1 +1K	CAACGTTTTCTAGTCCCCCG	+1 kb	
	AAAGTTTGCCCGCAGTGG		
Antp-P2	AAGCAAAGTGCGAATCGAGC	0 kb	
	TCACTGGCGTTCAGTTGTGA		
Antp-P2 +0.1K	CTGGGAATGAACCGAACGGA	+0.1 kb	
	GACGTGCCAAATAGACGTGC		
Antp-P2 +1K	TGTGTGGAAACGATGCGAATG	+1 kb	
	AACGAGTGTAAGCCGAGCA		
Antp-3'	CTCGCCCTTCGTCTTGTCT	+100.5 kb	
	GAAGGCAGACATACACCCGG		
Scr-P1	ACTTCGCGGATTGCTACGC	0 kb	
	AAGGCAACGCACGAGAGG		
Scr-P2	ACACGCGGAACAGCTGAGT	0 kb	
	GTATGAGTGAGCCAGAGCGCT		
Scr-3'	CGAACTGCGACGGATGGATA	+24 kb	
	GAAGGAGCACAAGATGGCCT		
bx-d-1	TAGTCTTATCTGTATCTCGCTCTTA	-29.6 kb	[1]
	CAGAACCAAAGTGCCGATAACTC		
bx-d-2	GCACGCACTAAACCCCATAA	-28.9 kb	
	TCCACCTCCTCTCCTCTCTC		
Ubx-P	GCGCTCTCTCTTGAGTGTTTCGT	0 kb	[2]
	GGCGAGCGCATTTTCCTT		
Ubx +0.1K	TCCAATCCGTTGCCATCGAACGAAT	+0.1 kb	
	TTAGGCCGAGTCGAGTGAGTTGAGT		
Ubx +1K	AATTGGTTTCCAGGGATCTGC	+1 kb	[1]
	ATCCAAAGGAGGCAAAGGAAC		
bx	CCATAAGAAATGCCACTTTGC	+31.7 kb	
	CTCTCACTCTCTCACTGTGAT		
Ubx-3'	AGTTCCACACGAATCATTATCTGAC	+74 kb	
	CTTCATTGCGCCGGTTCTGGA		

**Primers used for RT-qPCR**

Ubx	GCTCACTTCTACCAGACTGGC
	CTTCATTGCGCCGGTTCTGGA
Scr	CCGTGGATGAAGCGAGTACA
	ACCCATGTGGTAGGGTACGA
Antp	ATGCCGTCTCCACTGTATCC
	CGACGGGTCAAGTAGCGATT
Rpl32	ACTTCATCCGCCACCAGTCGG
	CGCTCGACAATCTCCTTGCGC

## References

1. Gambetta MC, Oktaba K, Muller J. Essential role of the glycosyltransferase *sxc/Ogt* in polycomb repression. *Science*. 2009;325(5936):93-6. doi: 10.1126/science.1169727 PMID: 19478141
2. Chopra VS, Hong JW, Levine M. Regulation of Hox gene activity by transcriptional elongation in *Drosophila*. *Curr Biol*. 2009;19(8):688-93. doi: 10.1016/j.cub.2009.02.055 PMID: 19345103