

Table S1 Oligonucleotides used in this work.

Application	Name	Sequence (5' to 3')
Recombineering	pFoxHAF+ <i>ApaI</i> *	tatatagggcccACTCGGAGGCTCCTTAGACACC
	pFoxHAR+ <i>ApaI</i> *	tatatagggcccAAAGTCGGTGCTGACAGCGGAC
	Linker sequence	CATGCTAGCATATACATATGATATAAGATCTGTAC
	pPax3-5HAF+ <i>EagI</i> *	cggCCGGGACGGTCTCCTCCTCG
	pPax3-5HAR+LINK †	gatctaacatatgaagctagCCTGGGGGCAGCTTCGCTCGC
	pPax3-3HAR+ <i>EagI</i> *	cggccgATTCAAAAGTGAACGCAGCCCCG
	pPax3-3HAF+LINK †	tagcttcatatgttagctctATGACCACGCTGGCCGGCGC
Recombineering Rh30 deletion cassette	LoxP511-Foxo1 ‡	CTGCTGTTTGCCGTGTTACGGGTTCTTCTCGGTTAGCTCCATC ATGCCAGAGGTGTACAGAGGAGGGGAAGGTGataacttcgtataatgta tactatacAGTGGGTGGGAGTCGATTTGTAGAAGGGTAAGACAGC CAGGGCTCAACTCTTTATTGTAATAATTCAAGAAAGC
	LoxP511-Pax3 ‡	GGGAGAGGGGAGAGGGGGAAAGGGGAAGGGAAAAGGGGA TGGAGAGAGAGAGAAAAGAGAGAGAGACCCAGtgaagttcctatactt ctagagaataggaacttcataacttcgtataatgtatgctatacgaagtatCTGAGGACTAC GATGAATGAGTTATAAGAGCACAAATTAAGAGAATTGCTAG TCTTTGGGACTATATAAA
LD-PCR	Pax3-LD1	GTATGAACAGATACAATTTCTCCCTCTTTTCATC
	Pax3-LD2	GCCAAATGTAGGAAAATGTTAGTGCTGTATTC
	Pax3-LD3	TGAGAAGAGTTAACAGCAGGTAATGTCATTCC
	Pax3-LD4	TAATAATGGAAAACCCACGTGGAGACCTAAC
	Pax3-LD5	ACACCTGTCCTATTTTCATGGATAATCTACTGAGG
	Pax3-LD6	AGTCCCGTGTTTCTAGACAGACGATTTGCTG
	Pax3-LD7	TGGCCTAAAAGAAAACATGATGGTTGACAATC
	Foxo1-LD1	AATACCTACAAAAGAATTTCTGTGCCACTGACTTG
	Foxo1-LD2	CAAAGAATGCAATGGCACAAACTTTAACATTC
	Foxo1-LD3	TCCCTTCTATCTGAAAAATCTTCGAAAATAAAAC
	Foxo1-LD4	AAAACCTGGGAGGAGATCACAGATTCAAAGTC
	Foxo1-LD5	AAAAATTCAGCTGAAGGATCTTTCTCAACAGTAG
	Foxo1-LD6	TATTCAAACCTCACGCCTAAAGAAATTCCTTCAG
	Foxo1-LD7	TAGGAGCACAGAAAAGTGTAATAACCTCAAAGG
	Foxo1-LD8	CACTAACATAAGTCAAATAATGAATGCTGCTG
	Foxo1-LD9	AAAGAAGGGGGAAAGAAGACAGGAGAAGAGTG
	Foxo1-LD10	TAAAAGTCACTCATCACAAACTTCCTGTTTAAAG
	Foxo1-LD11	GTACAATACTTCTCTGCTTGCAAAACTTCCTATTC

4C-seq	4C-mPax3_RS	TGTTTTCGTCTTACTTGGGGATC
	4C-mPax3_NRS	CTGCCTGCGCTCATTTGT
	4C-hPAX3_RS	AGAAGGGCCGGGCTGATC
	4C-hPax3_NRS	GGCCACTTCCCTATCCGC
	4C-mFoxO1_RS	CTTACCATCCACTCGTAGATC
	4C-mFoxO1_NRS	CAGCGGTTGCAGAAAGTT
	4C-VP1_RS	TGGTCAAGTTGCTGTCGATC
	4C-VP1_NRS	CTCCTTGATAAACAACAGTAGAGG
	4C-VP2_RS	GGACAGGTAACAGAATCAGATC
	4C-VP2_NRS	AGAAACAAGGATAGTCCAAACC
	4C-VP4_RS	TAGACTGACCACAGGAAGATC
	4C-VP4_NRS	GATGGAAACATCTGAACAAGG
	4C-VP5_RS	GCATTTGCATTCAATGGATC
	4C-VP5_NRS	GGATATTTCTGGGAGTTGAAGC
	4C-VP6_RS	TTCAAACCCATCAGGAGATC
	4C-VP6_NRS	CTACCTAGGTTGGGCTCTGG
	4C-VP7_RS	GGCATGTGGTTCTAGGTGATC
	4C-VP7_NRS	GTTTCCTGCTGTTGGAGTGC
	4C-VP8_RS	CCACACAGTGTTTACTTTGATC
	4C-VP8_NRS	TGTATGAGTTAATGTTATTTAAGAAGG
	4C-VP9_RS	GGTCATCAGGAGTTATGTGTGATC
	4C-VP9_NRS	TCCTTCATGGTCTGGACTGC

(*) small caps indicate the engineered restriction sites and additional flanking sequences

(†) small caps indicate engineered linker sequence

(‡) small caps indicate the engineered LoxP511 sites