Table S1. Primer sequences. Mutated nucleotides are indicated in bold.

Primer name	Sequence 5'-3'
Primers for site-directed mutagenesis	
HB1-Fwd	TA**GGTACC**ATAAAGGCATGACTCCGGACATGG
HB1-Rev	AT**GGTACC**TATCCAGCTTAAAGGCCTTTCCAAC
HB2-Fwd	AC**TCCGGA**CATGGTAACTGGAGAAATGCTTTC
HB2-Rev	TG**TCCGGA**GTCATGCCTTTATGATTTATATCCAGC
HB3-Fwd	**GAAGACCAA**TGGGGACATTTAAACTCCTTGGGGC
HB3-Rev	CCA**TTGGTCTTC**CCAAGCTAAAATACAGACATGC
HB2*	GCATTTCTCCAGTTACCATG**G**AATTAGTCATGCCTTTATGGTACC
Primers for EMSA	
HBox1	GAAAGGCCTTTAAGCTGGATATAAATCATAAAGGC
MutHBox1	GAAAGGCCTTTAAGCTGGATA**CCC**AT**TC**TAAAGGC
HBox2	GGCATGACTAATTGCATGGTAACTGGAGAAATG
MutHBox2	GGCATGACT**CCA**TGCATGGTAACTGGAGAAATG
HBox3	GTATTTTAGCTTGGGAAGTAATATGGGGACATTTAAACTCCTTG
MutHBox3	GTATTTTAGCTTGGGAAG**ACCA**ATGGGGACATTTAAACTCCTTG
LongPaxHBox2Six	GGCATGACTAATTCCATGTAATTGCATGTAATTCCATGGTAACTGGAGAAATG
Primers for ChIP qPCR	
Fwd-Myf5-145	TGTGGCTCTCTCTCCGTATG
Rev-Myf5-145	CCCCATATTACTTCCCAAGC
Fwd -257.5	GTGTGTCAGTGCATAGCCTAA
Rev -257.5	AGGAAGAGCTTGATGGACCAA
Fwd -55.2	GTATCCGCCTCACTGAATTGAGA
Rev -55.2	ACCTGGTAGAGATTACCAACAC

Table S2. Summary of transgenes analysed and characteristics of the corresponding transient transgenic embryos. Branchial arch expression, directed by the ba element, serves as a control of transgenesis.

Transgene	Stage	N° transgenic embryos	Hypaxial lips (forelimb level)	Delaminating MPCs (forelimb level)	Branchial arches expression
-58/-57 baMyf5nLacZ	E10.5	8	NO (3/3 tested)	NO (3/3 tested)	YES (8/8)
*-58/-57 MutHBox2*baMyf5nLacZ*	E10.5	7	YES (4/4 tested)	YES (4/4 tested)	YES (7/7)

Transgene	Stage	N° transgenic embryos	Forelimb expression	Branchial arches expression
-58/-57 MutHBox1/2/3 baMyf5nLacZ*	E10.5	6	NO (6/6)	YES (6/6)

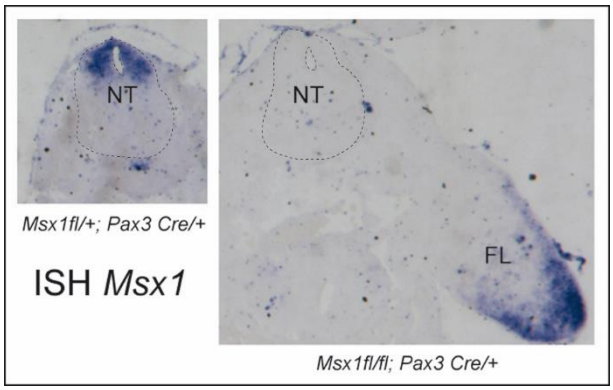

Fig. S1. *Msx1 in situ* hybridization to test Cre efficiency in *Pax3* expressing cells. Left panel shows the dorsal-most part of a transverse section of an E10.5 $Msx1^{fl/+};Pax3^{Cre/+}$ embryo at the level of the forelimb buds. *Msx1* transcripts are detected in the Pax3-expressing cells in the dorsal part of the neural tube. The right panel shows an equivalent section of an E10.5 $Msx1^{fl/fl};Pax3^{Cre/+}$ embryo where the *Msx1 in situ* hybridization (ISH) signal is no longer detected in the neural tube. A positive control for *Msx1* ISH is provided by distal mesenchyme of the forelimb bud where *Pax3* is not expressed. NT= neural tube. Dotted line delineates the neural tube and its lumen.

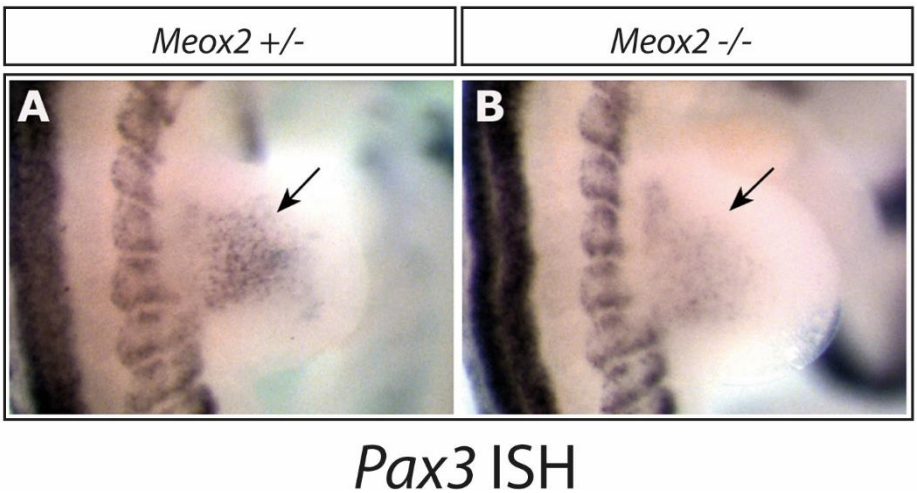

Fig. S2. Myogenic precursor cells expressing Pax3 transcripts are present in forelimb buds of E10.75 Meox2$^{-/-}$ mutants. Whole mount *in situ* hybridisation with a *Pax3* probe was performed on E10.75 *Meox2*$^{+/-}$ (A) and *Meox2*$^{-/-}$ embryos. These lateral views of forelimbs show that, although the level of *Pax3* transcription appears lower in the mutant (see Mankoo et al., 1999), *Pax3* positive cells (indicated by arrows), are clearly detected at this stage in the absence of Meox2.

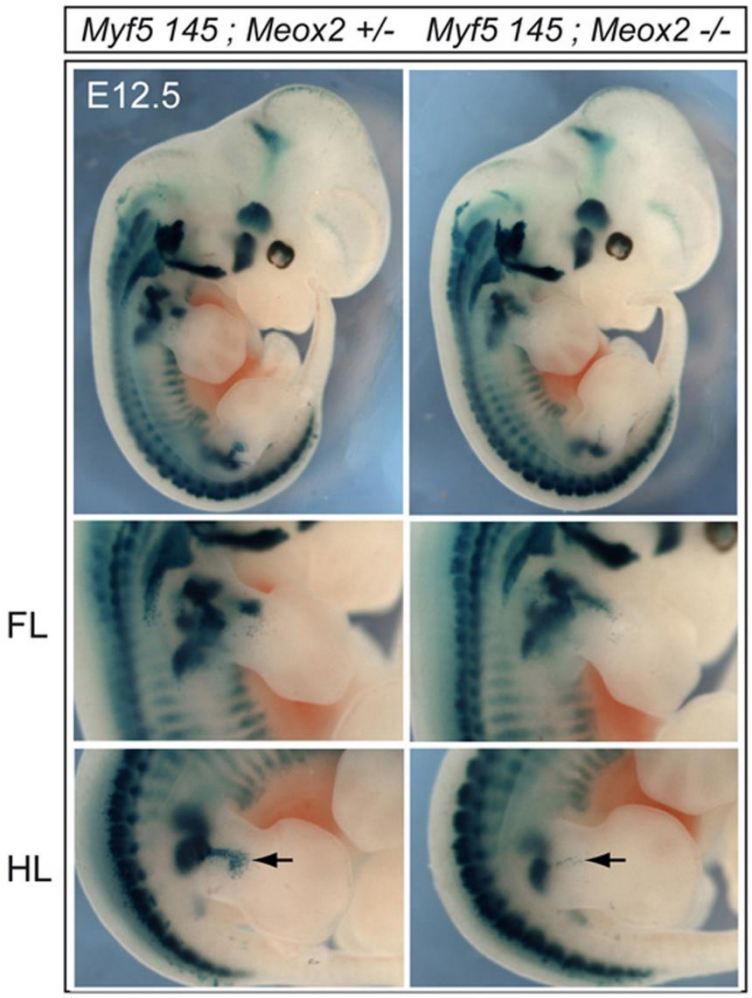

Fig. S3. *145-baMyf5nLacZ* transgene expression in *Meox2*$^{+/-}$ and *Meox*$^{-/-}$ embryos at E12.5. X-Gal stained *145-baMyf5nLacZ (Myf5 145); Meox2*$^{+/-}$ (left) or *145-baMyf5nLacZ (Myf5 145);Meox2*$^{-/-}$ (right) embryos are shown at E12.5. Lower panels are enlargements of forelimb (FL) and hindlimb (HL) regions of these embryos. Black arrows indicate the hindlimb regions where a delay in *145baMyf5nLacZ* expression is still occuring.