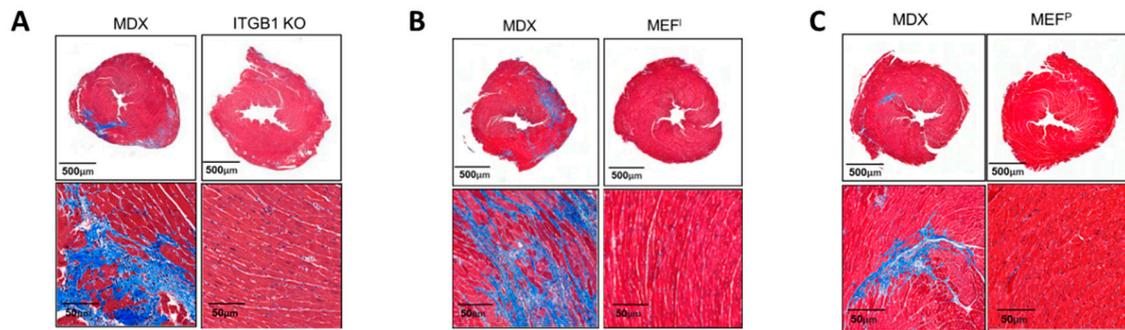
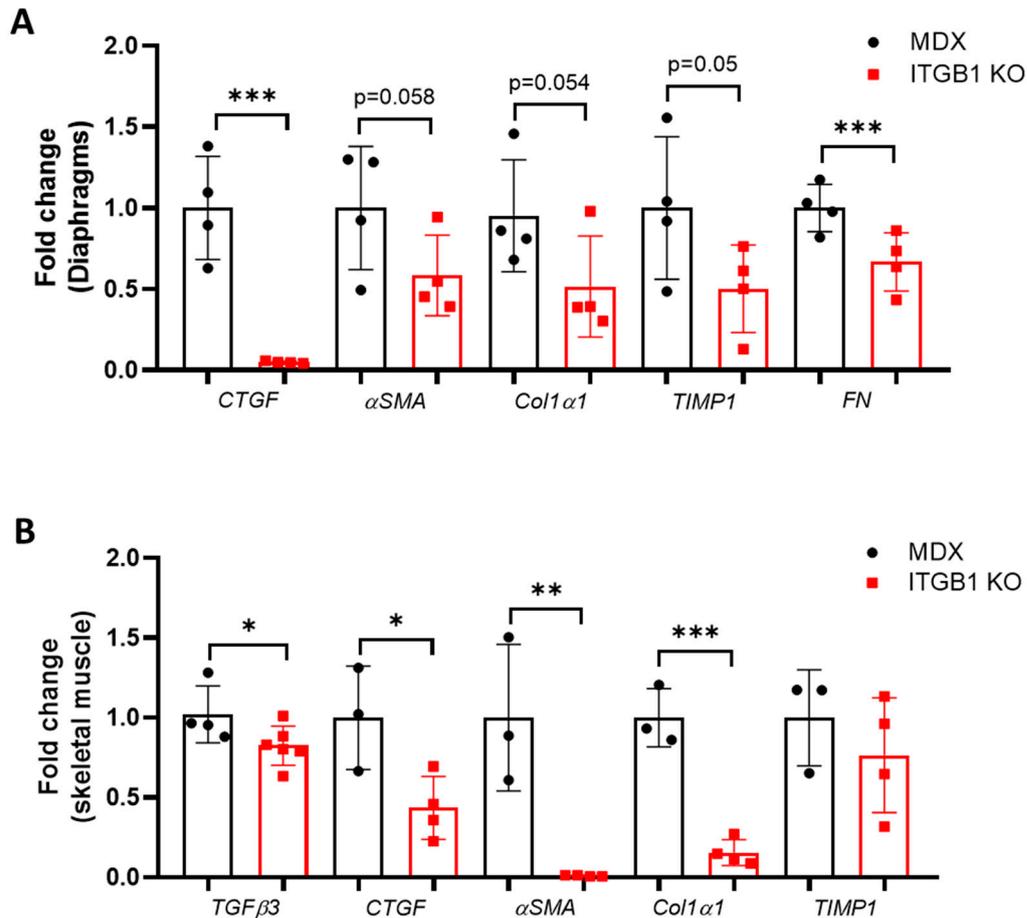


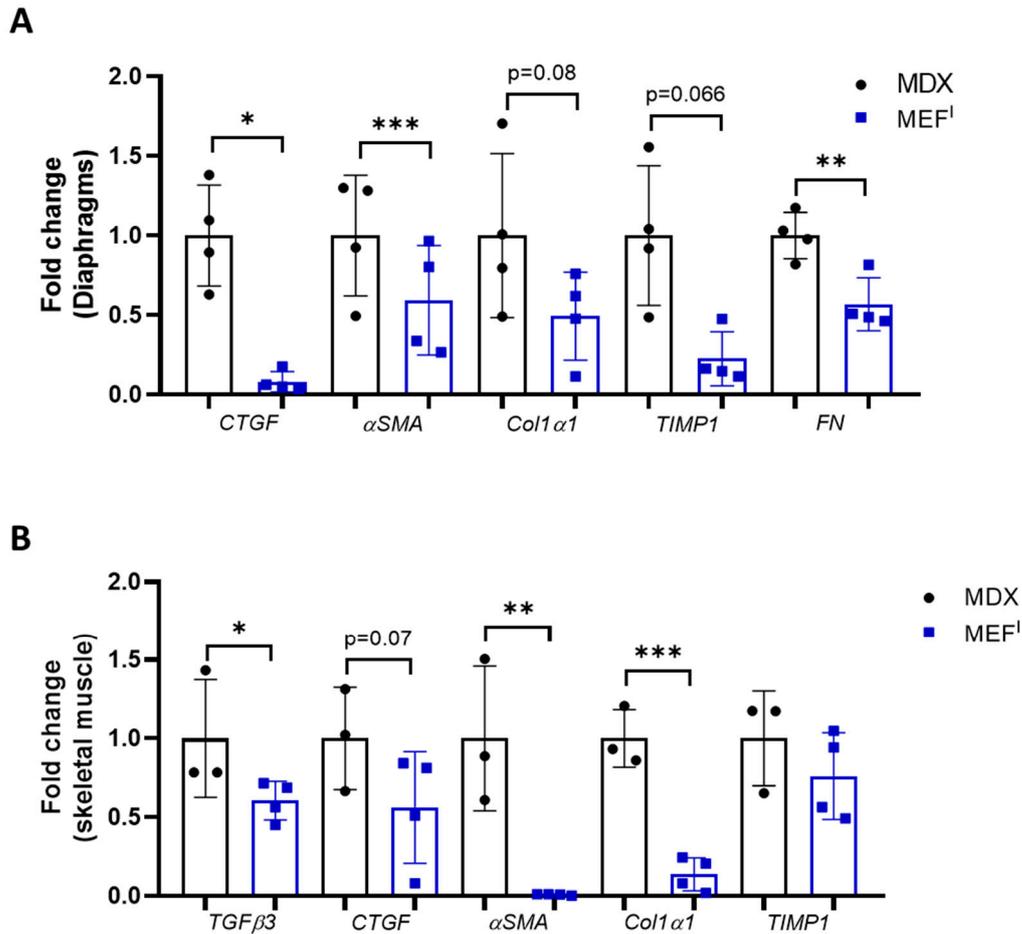
## Supplementary figures



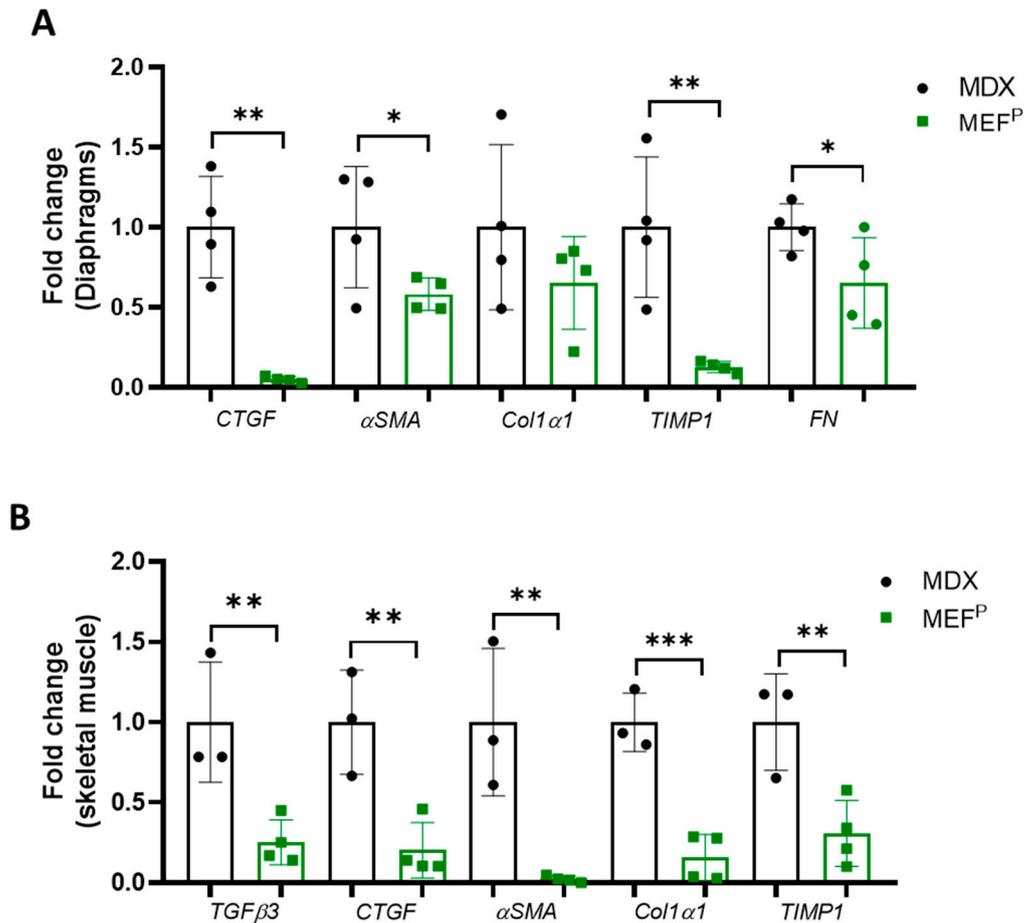
**Supplementary figure S1.** Injection of less aggressive PyMT ITGB1 KO cells and non-cancerous MEF<sup>I</sup> and MEF<sup>P</sup> cells led to a reduction in fibrosis in the hearts of MDX mice. Representative image of the heart of control MDX (left), MDX injected mice (right) with **(A)** PyMT ITGB1 KO, **(B)** MEF<sup>I</sup>, and **(C)** MEF<sup>P</sup> cells, stained for Masson's trichrome. Scale bar: 500 μm (top) and 50 μm (bottom).



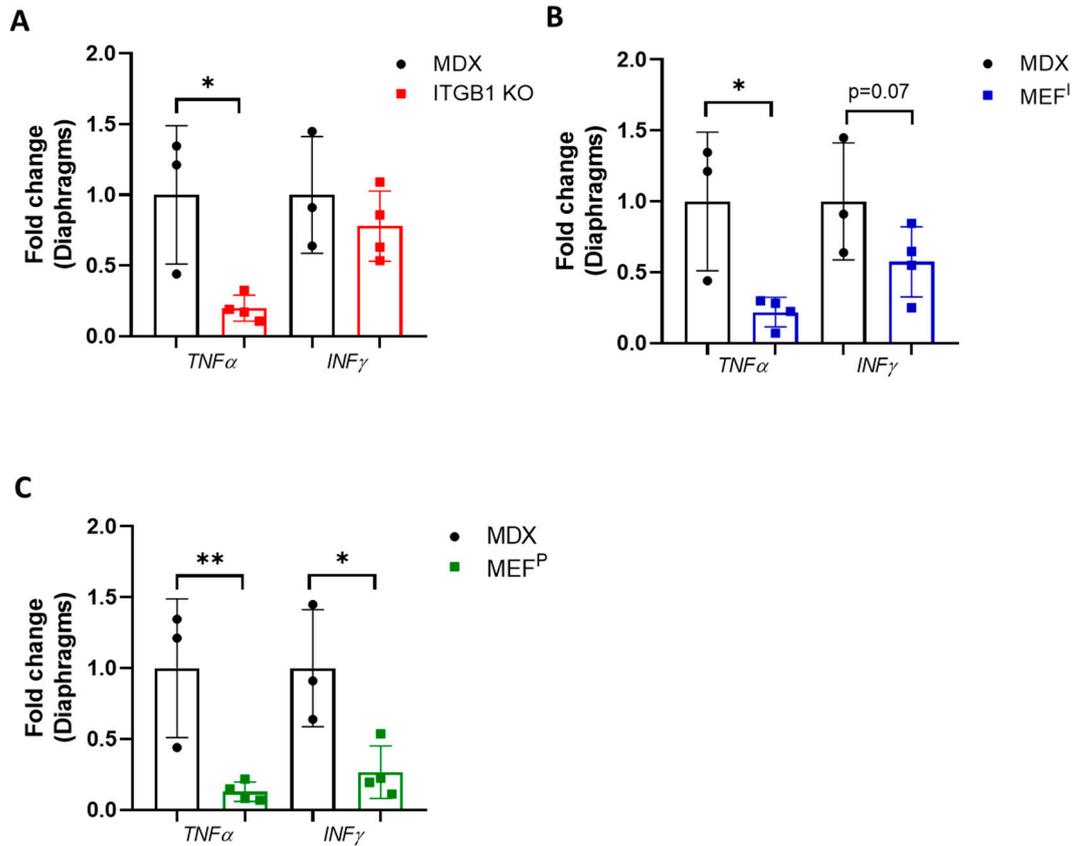
**Supplementary figure S2.** Injection of less aggressive PyMT ITGB1 KO cells resulted in a significant decrease in fibrotic hallmark genes of the diaphragm and skeletal muscles of MDX mice. **(A-B)** Transcription levels of fibrosis hallmark gene markers TGF $\beta$ 3, CTGF,  $\alpha$ SMA, Col1 $\alpha$ 1, and TIMP1 in of ITGB1 KO-bearing MDX mice compared to control MDX mice in the diaphragm muscles **(A)** and in the skeletal muscles **(B)**, measured using qRT-PCR normalized to mB2M and  $\beta$ ACTIN gene, respectively. Data are presented as mean  $\pm$  SE. One-way ANOVA followed by Tukey post-test; **(A,B)**. \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ . Each dot represents one mouse.



**Supplementary figure S3.** Injection of non-cancerous MEF<sup>1</sup> cells led to a significant decrease in fibrotic hallmark genes of the diaphragm and skeletal muscles of MDX mice. **(A-B)** Transcription levels of fibrosis hallmark gene markers TGF $\beta$ 3, CTGF,  $\alpha$ SMA, Col1 $\alpha$ 1 and TIMP1 in of MEF<sup>1</sup> injected MDX mice compared to control MDX mice in the diaphragm muscles **(A)** and in the skeletal muscles **(B)**, measured using qRT-PCR normalized to mB2M and  $\beta$ ACTIN gene, respectively. Data are presented as mean  $\pm$  SE. One-way ANOVA followed by Tukey post-test; **(A,B)**. \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ . Each dot represents one mouse.



**Supplementary figure S4.** Injection of non-cancerous MEF<sup>P</sup> cells led to a significant decrease in fibrotic hallmark genes of the diaphragm and skeletal muscles of MDX mice. **(A-B)** Transcription levels of fibrosis hallmark gene markers TGFβ3, CTGF, αSMA, Col1α1 and TIMP1 in of MEF<sup>P</sup> injected MDX mice compared to control MDX mice in the diaphragm muscles **(A)** and in the skeletal muscles **(B)**, measured using qRT-PCR normalized to mB2M and βACTIN gene, respectively. Data are presented as mean ± SE. One-way ANOVA followed by Tukey post-test; **(A,B)**. \* p < 0.05; \*\* p < 0.01; \*\*\* p < 0.001. Each dot represents one mouse.



**Supplementary figure S5.** Injection of less aggressive PyMT ITGB1 KO cells and non-cancerous MEF<sup>l</sup> and MEF<sup>P</sup> cells resulted in the downregulation of the M1-polarizing hallmark gene in the diaphragm muscles of MDX mice. (**A-C**) qRT-PCR measuring transcription levels of M1-macrophage polarizing gene: *TNF $\alpha$*  and *INF $\gamma$* , in the diaphragm of MDX mice (**A**) injected with ITGB1 KO, (**B**) MEF<sup>l</sup> and, (**C**) MEF<sup>P</sup> cells, as compared to control MDX. Measurements were obtained using qRT-PCR, normalized to housekeeping gene *mB2M*. Data are presented as mean  $\pm$  SE. One-way ANOVA followed by Tukey post-test (**A-C**). \*  $p < 0.05$ ; \*\*  $p < 0.01$ . Each dot represents one mouse.

Gene	Forward	Reversed
Hsp90	TCGTCAGAGCTGATGATGAAGT	GCGTTTAACCCATCCAACCTGAAT
mb2M	TTCTGGTGCTTGTCTCACTGA	CAGTATGTTTCGGCTTCCCATTCC
ACTA2	GTCCCAGACATCAGGGAGTAA	TCGGATACTTCAGCGTCAGGA
Col1α1	CTGGCGGTTTCAGGTCCAAT	TTCCAGGCAATCCACGAGC
TGFβ3	CCTGGCCCTGCTGAACTTG	GACGTGGGTCATCACCGAT
CTgF	AGACCTGTGGGATGGGCAT	GCTTGGCGATTTTAGGTGTCC
TIMP	GCAACTCGGACCTGGTCATAA	CGGCCCGTGATGAGAACT
α-SMA	GTCCCAGACATCAGGGAGTAA	TCGGATACTTCAGCGTCAGGA
FN	TGGTGGCCACTAAATACGAA	GGAGGGCTAACATTCTCCAG
POSTN	CCTGCCCTTATATGCTCTGCT	AAACATGGTCAATAGGCATCACT
G-CSF	CGTTCCCCTGGTCAGTGTC	CCGCTGGCCTGGATCTTC
GRP18	TGAAGCCCAAGGTCAAGGAGAAG	TTCATGAGGAAGGTGGTGAAGGC
Arg1	AATGAAGAGCTGGCTGGTGT	CTGGTTGTCAGGGGAGTGTT
CD163	CCTCCTCATTGTCTTCCTCCTGTG	CATCCGCCTTTGAATCCATCTCTTG
INFγ	ACAGCAAGGCGAAAAAGGATG	TGGTGGACCACTCGGATGA
TNF-α	CCCTCACACTCAGATCATCTTCT	GCTACGACGTGGGCTACAG
CCL2	GTGATGGAGGGGGTCAGGA	GGGATGGGACAGCCTAAACT
IL-1	GCAACTGTTCTGAACTCAACT	ATCTTTTGGGGTCCGTCAACT
IL-13	AACGGCAGCATGGTATGGAGTG	TGGGTCTGTAGATGGCATTGC

**Supplemental Table S1:** The sequences of the oligonucleotides used for qRT-PCR of the indicated genes.