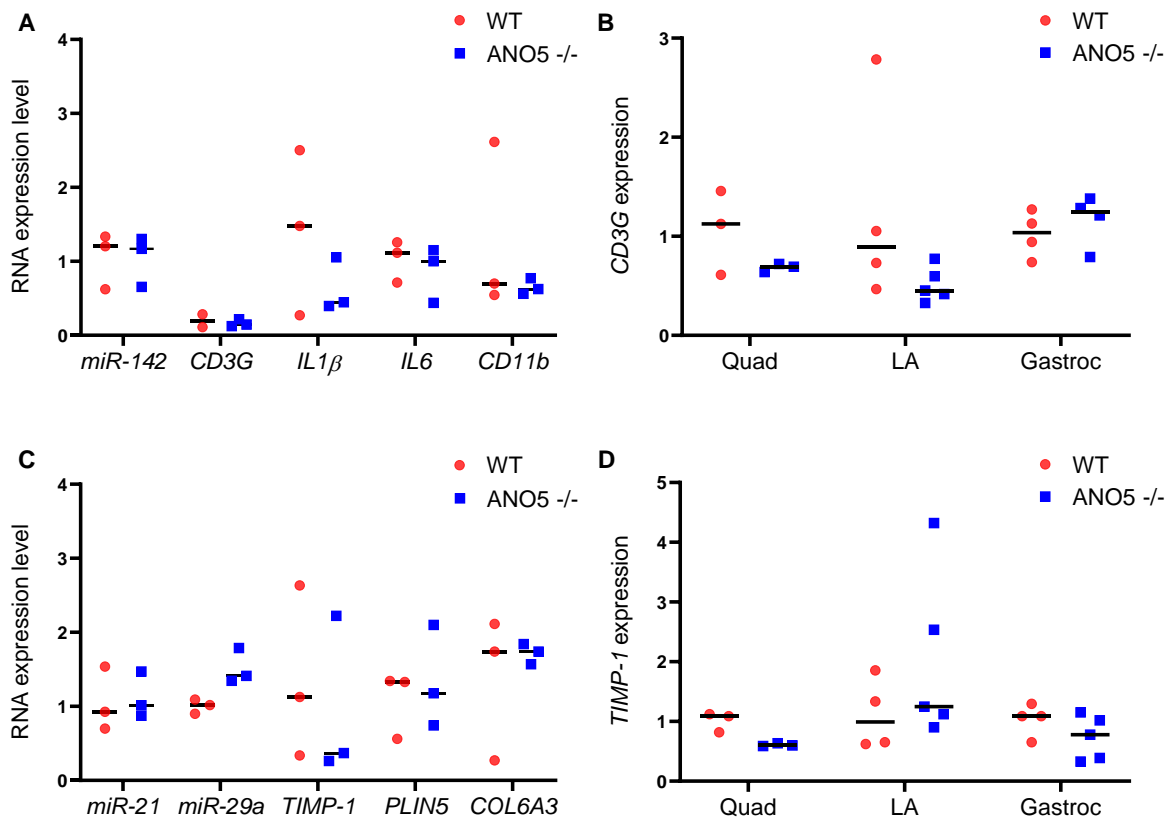
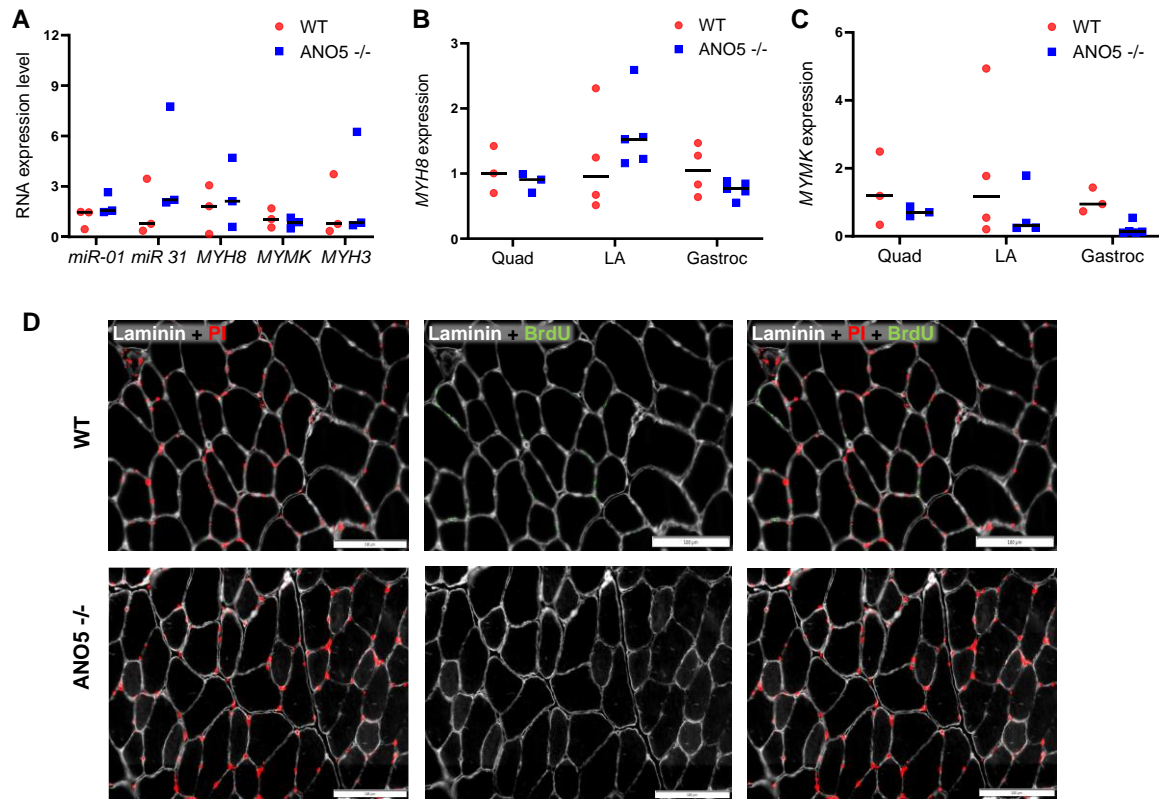


## Supplemental Data:



### Supplemental Figure 1: Analysis muscle inflammatory and ECM remodeling genes.

(A, B) Expression analysis of different miRNA and mRNA related to muscle inflammation in (A) psoas and (B) other muscles in 9-10 months old WT and ANO5<sup>-/-</sup> mouse. (C, D) Expression analysis of different miRNA and mRNA related to muscle ECM remodeling in (A) psoas and (B) other muscles in WT and ANO5<sup>-/-</sup> mouse. Data is presented as mean  $\pm$  SD (n  $\geq$  3), with each dot representing individual mice. Data was analyzed by unpaired Mann-Whitney t test.



**Supplemental Figure 2: Spontaneous regenerative myogenesis in ANO5<sup>-/-</sup> muscle.**

**(A)** Plot showing expression of different myogenesis-associated miRNA and mRNA in Psoas muscle of 9-10 months old mice. **(B, C)** Plots showing qRT-PCR quantitation of **(B)** embryonic myosin heavy chain (*MYH8*) and **(C)** myomaker (*MYMK*) genes in different muscles of 9-10 months old WT and ANO5<sup>-/-</sup> mice. **(D)** Images showing PI (red), BrdU (green) and Laminin (white) staining of quadriceps muscle sections from 10-month-old WT and ANO5<sup>-/-</sup> mice maintained for 1 week on BrdU. Data is presented as mean ± SD (n ≥ 3), with each dot representing individual mice. Data was analyzed by unpaired Mann-Whitney t test. Scale bar represents 100 μm.