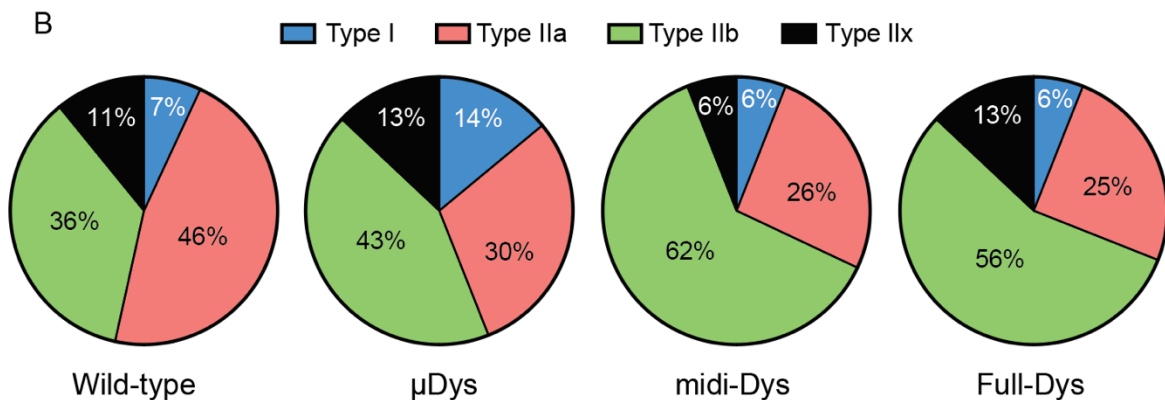
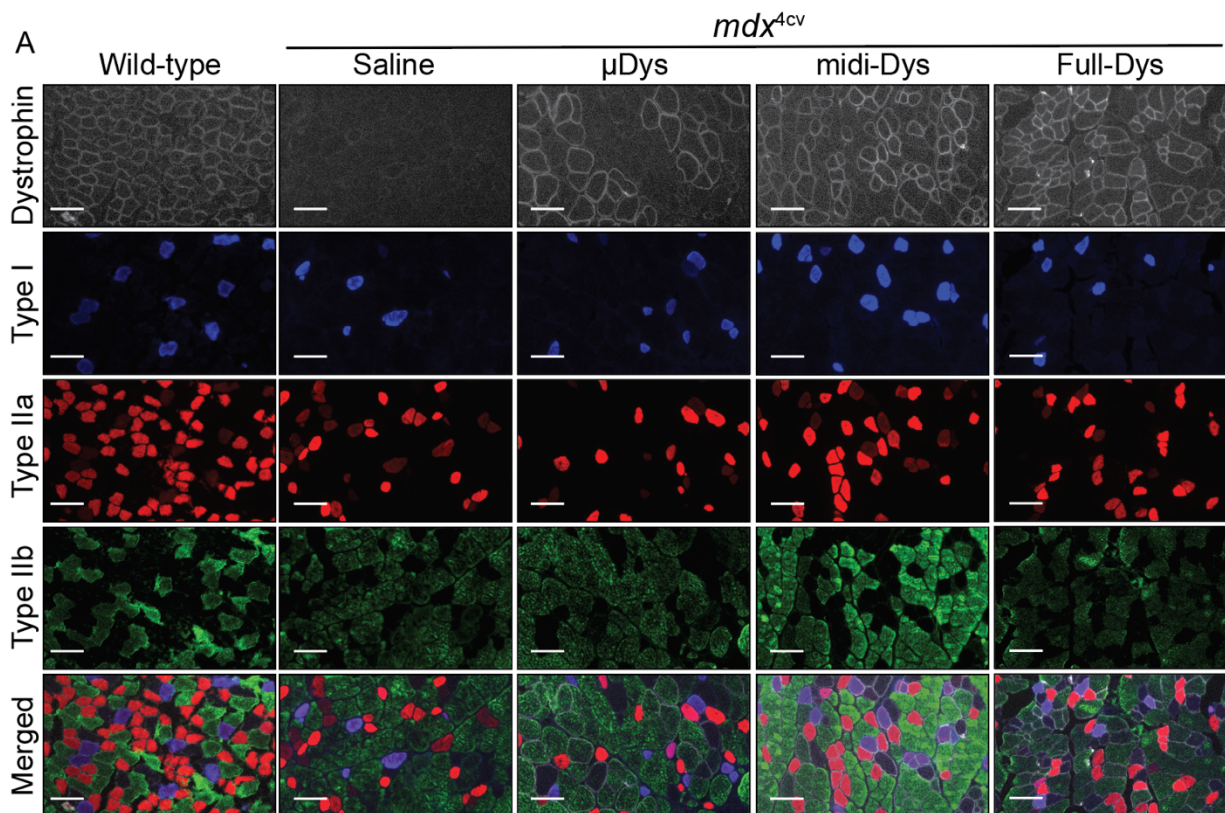
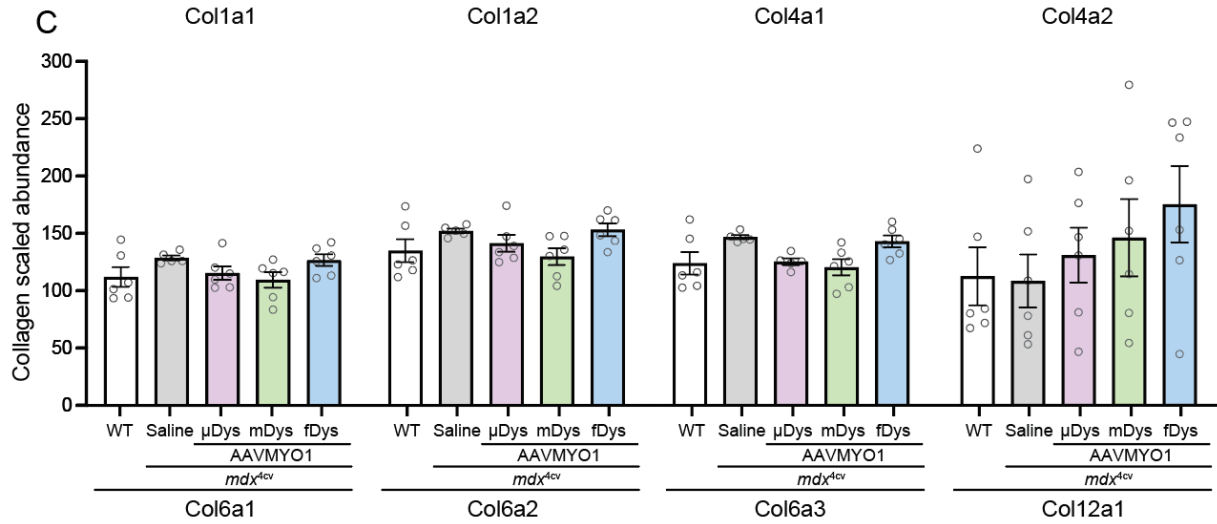
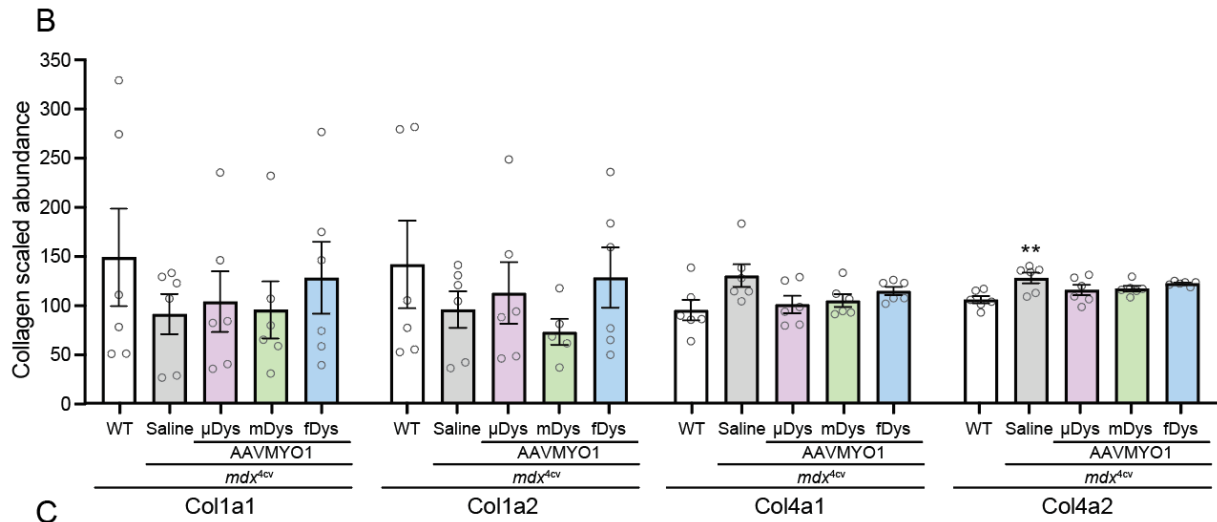
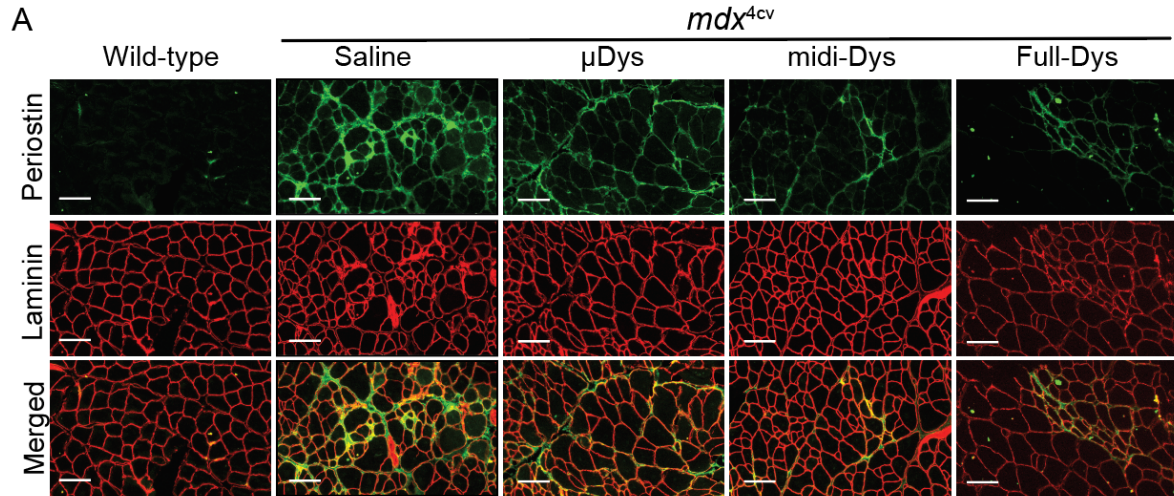
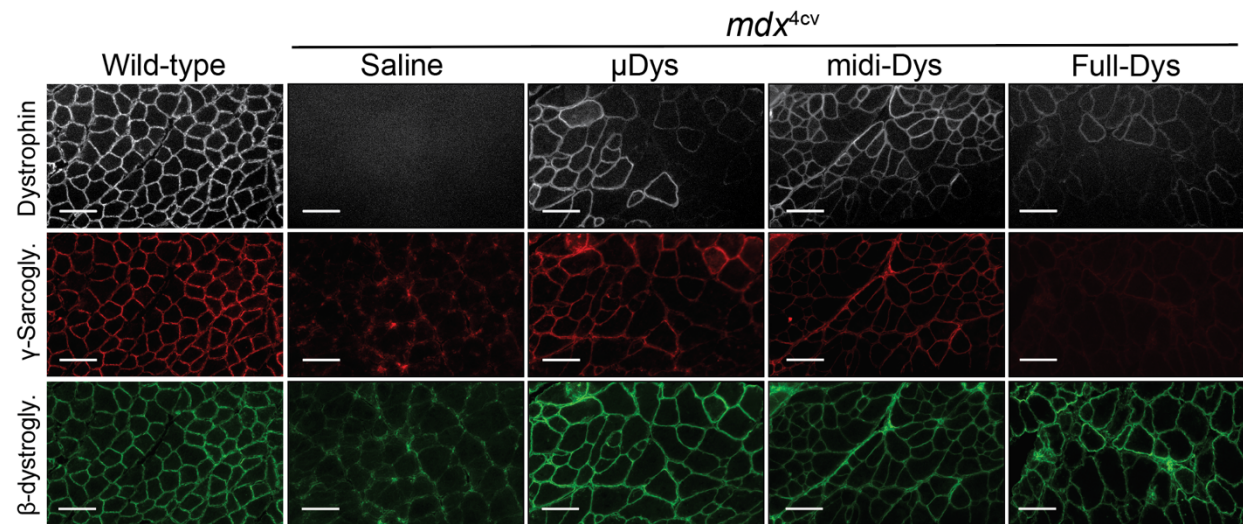




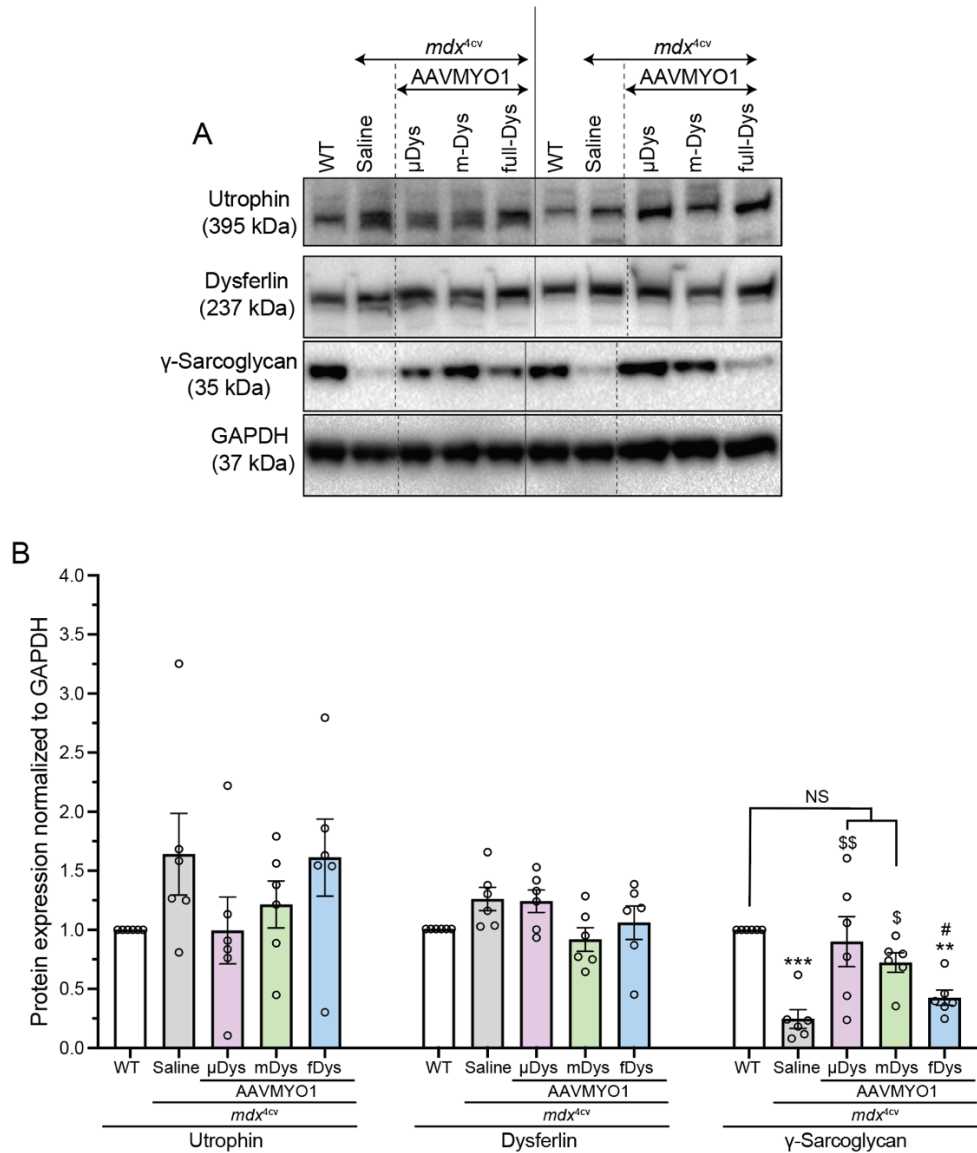
Supplementary Figure 1: A) Quadruple immunolabeling of gastrocnemius muscle cross-sections with antibodies specific to myosin heavy chains type I, IIa and IIb or dystrophin to correlate the dystrophin expression and fiber-type specificity (scale bars: 50 μ m). B) quantification of dystrophin-positive myofibers from the muscle sections stained with myosin heavy chains antibodies. ~1000 fibers were counted.



Supplementary Figure 2: A) original panel presented in figure 3 showing periostin expression as well as laminin (scale bars: 50µm). B) and C) relative abundance of different collagen isoforms found to be unchanged in *mdx*^{4cv} mice at the age of 5 months, with the exception of Col4a2. Bar graphs depict means ± SEM from n=5-6 mice/group. Comparisons between groups were made using one-way ANOVA with Tukey's multiple comparisons test. ***P*<0.01 *versus* the WT group. µDys: micro-dystrophin, mDys: midi-dystrophin, fDys: full-length dystrophin.



Supplementary Figure 3: Original panel presented in Figure 3 showing expression and localization of dystrophin and two DGC partners, γ -sarcoglycan and β -dystroglycan (scale bars: 100 μ m).



Supplementary Figure 4: Western blot validation of protein expression of key proteins. A) representative gel image of the same protein gastrocnemius samples stained with antibodies specific to utrophin, dysferlin and γ -sarcoglycan. B) Densitometry quantification of protein expression levels. Bar graphs depict means $\pm$ SEM from n=6 mice/group. NS: Not significant, ** P <0.01, *** P <0.001 versus WT; \$ P <0.05, \$\$ P <0.01 versus saline group; # P <0.05 versus μ Dys group using ANOVA test followed by Tukey's post hoc. μ Dys: micro-dystrophin, mDys: mid-dystrophin, fDys: full-length dystrophin.