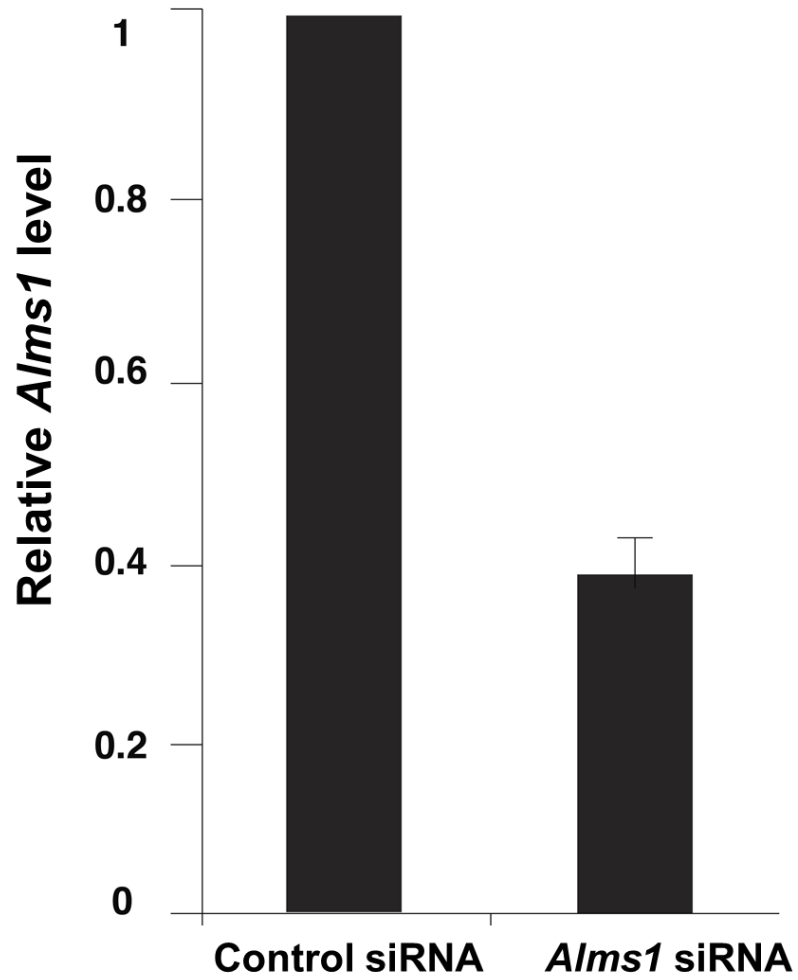
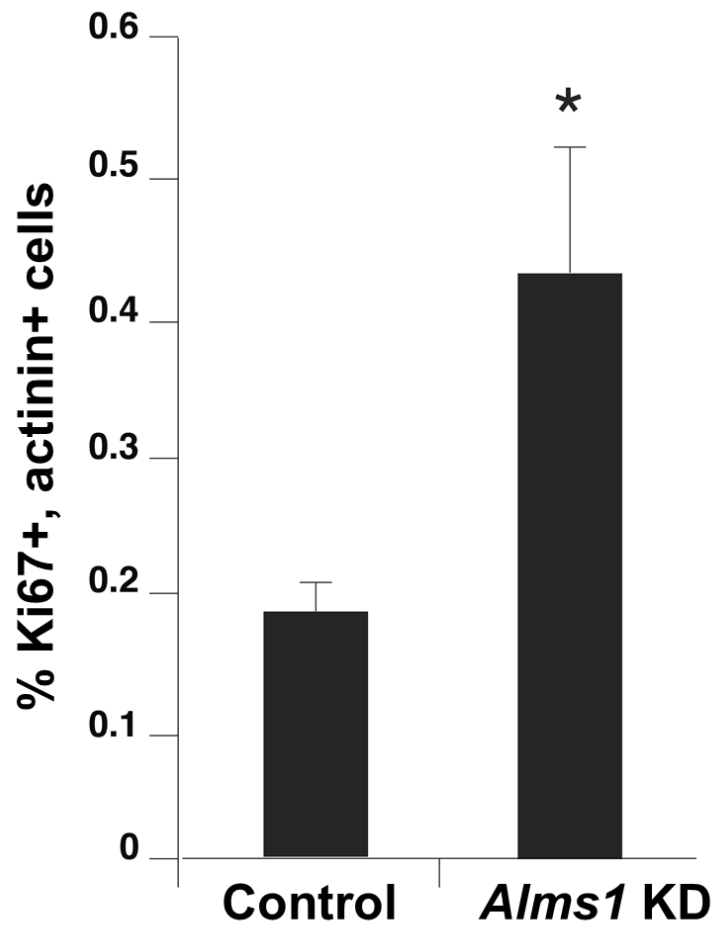


Supplementary Information



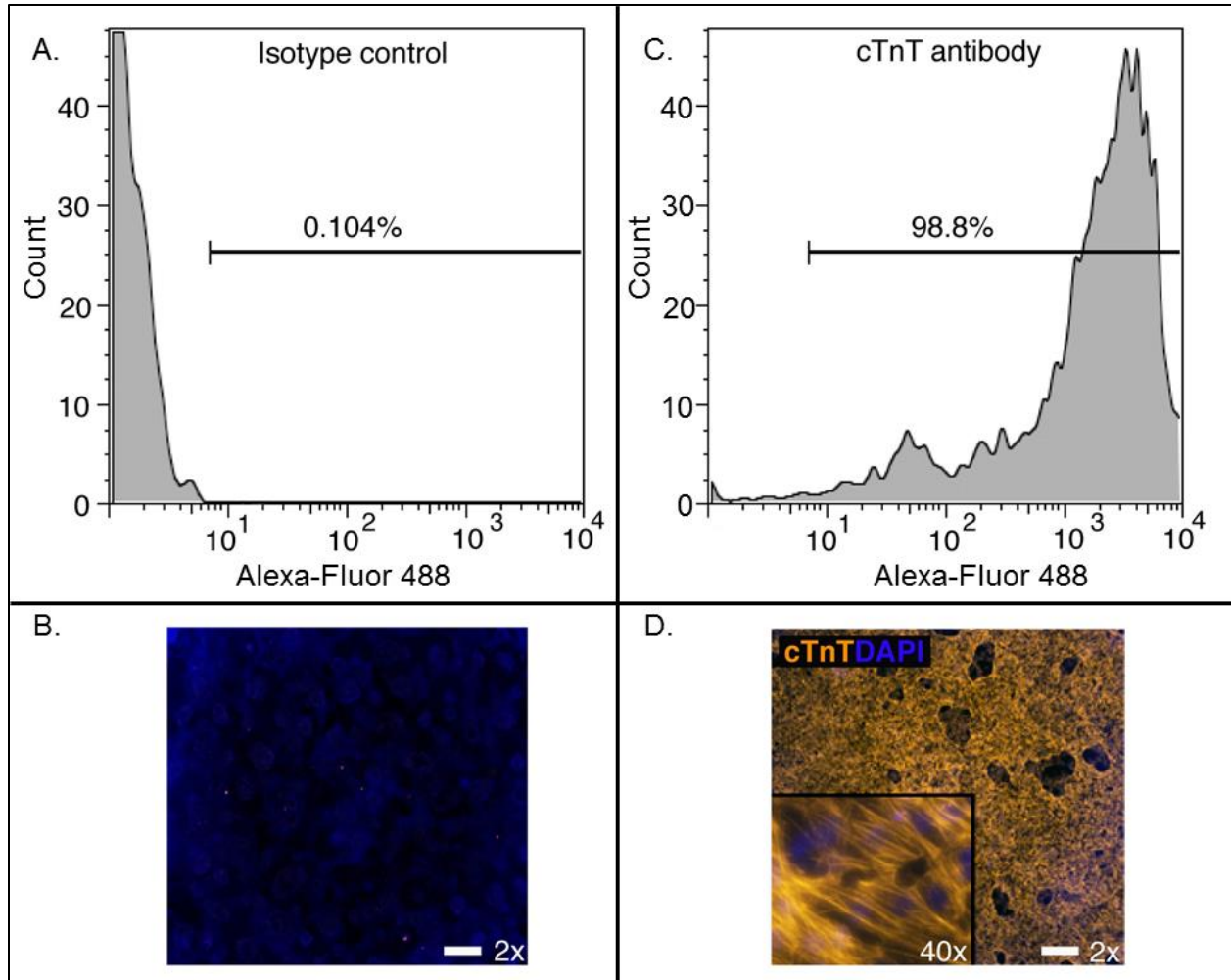
Supplementary Figure 1. Knockdown of *Alms1* in cardiomyocytes.

Relative mRNA levels of *Alms1* 24h after siRNA treatment of neonatal cardiomyocyte enriched cultures (N=3), normalized to *Gapdh* mRNA level. Error bars indicate S.E.M..



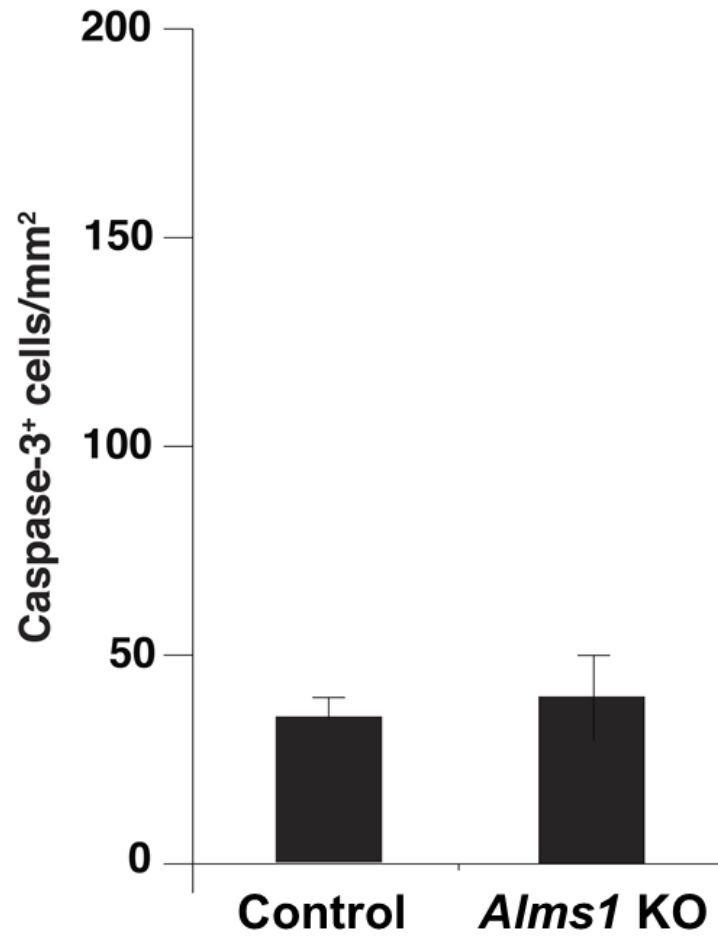
Supplementary Figure 2. *Alms1* siRNA increases markers of proliferation in cultured cardiomyocytes:

Cultured murine cardiomyocytes were evaluated after 48 hours for proliferation by immunostaining for Ki67 together with α -sarcomeric actinin to identify cardiomyocytes proceeding through the cell cycle. Flow cytometry analyses identified a 2.5-fold increase in the number of cardiomyocytes expressing the proliferation marker Ki67 after *Alms1* siRNA knockdown compared to control (4.2% vs. 1.7%, N=8, respectively; Student's *t*-test, $P < 0.05$).



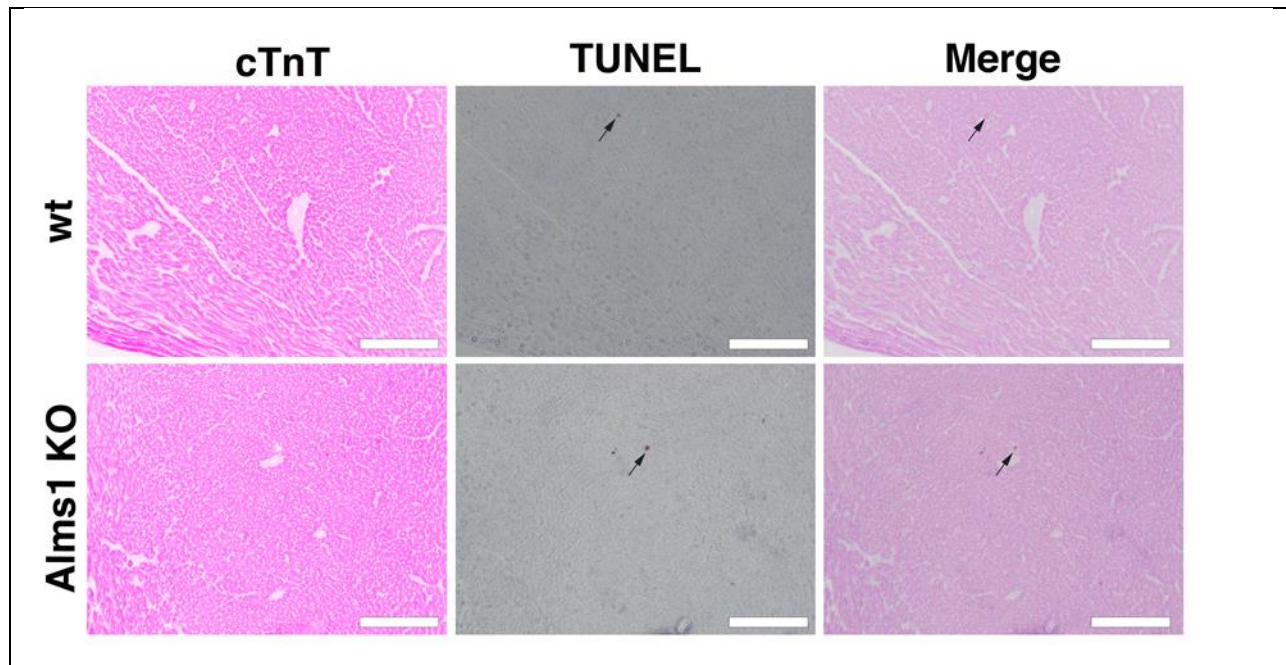
Supplementary Figure 3. Cardiomyocytes derived from ES cells with puromycin selection

The purification of cardiomyocytes was confirmed by flow cytometry (98.8% cTnT+ cells) and immunohistochemistry. Puromycin-selected cells were stained with antibodies against isotype control (A, B) or cTnT (C, D) antibodies, followed by staining with Alexa-Fluor 488 (Invitrogen). The percentage of cTnT+ cells (cardiomyocytes) 48h after puromycin selection is 98.8%. Scale bar is 500 μ M.



Supplementary Figure 4. Analysis of caspase-3 as a marker of apoptosis

Postnatal day 15 mouse hearts were analyzed for caspase-3, a marker of apoptosis, by immunostaining. The number of positively stained cells was normalized per mm². Positive staining was low for both the *Alms1*^{Gt/Gt} (KO) and wild-type littermate control mice; N=3, error bars indicate S.E.M..



Supplementary Figure 5. Analysis of TUNEL positivity as a marker of apoptosis

Postnatal day 15 mouse hearts were analyzed for TUNEL to determine DNA fragmentation in apoptotic cells, by immunostaining (brown), with cardiomyocytes designated by cTnT (pink). Positive staining was low for both the *Alms1*^{Gt/Gt} (KO) and wild-type littermate control mice. Scale bar is 100 μ M.