

## Supplemental Figure Legends

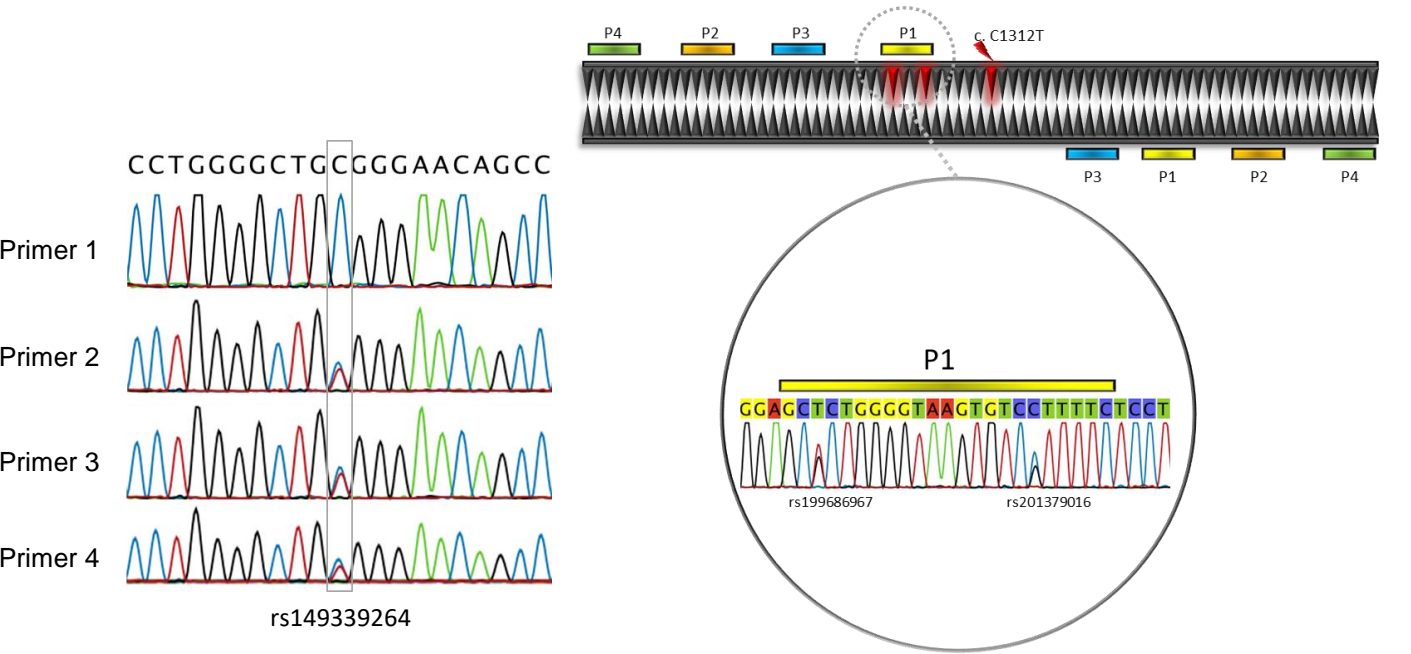
**Supplemental Figure S1:** Undetected variant by using Sanger sequencing and HaloPlex. The etiology of the disease using Sanger sequencing and previous versions of NGS (HaloPlex) had remained unclear for a long time because of allelic dropout **(A)** and low coverage **(B)**. P: primer.

**Supplemental Figure S2:** LMNA-iPSCs show typical pluripotent characteristics. **A:** LMNA-iPSCs show typical stem cell morphology and are positive for alkaline phosphatase activity (ALP) (scale bar= 200  $\mu$ m). They show expression of the pluripotency-related proteins OCT4, NANOG, SOX2 and LIN28 visualized by immunofluorescence staining (scale bar= 100  $\mu$ m). **B:** RT-PCR of pluripotency related genes. The iPSC from both LMNA patients show expression of *GDF3*, *NANOG*, *OCT4*, *SOX2*, *FOXD3*, and *LIN28*. Patient-fibroblasts (FB) serve as negative control and previously published iPSCs as a positive control (PC). **C:** In vitro differentiation potential of LMNA-iPSC. Culture in embryoid bodies induces spontaneous differentiation of iPSC showing cells from all three germ layers: alpha-feto protein (AFP; endoderm), alpha-smooth muscle actin ( $\alpha$ -SMA), and beta-III-Tubulin ( $\beta$ -III-TUB).

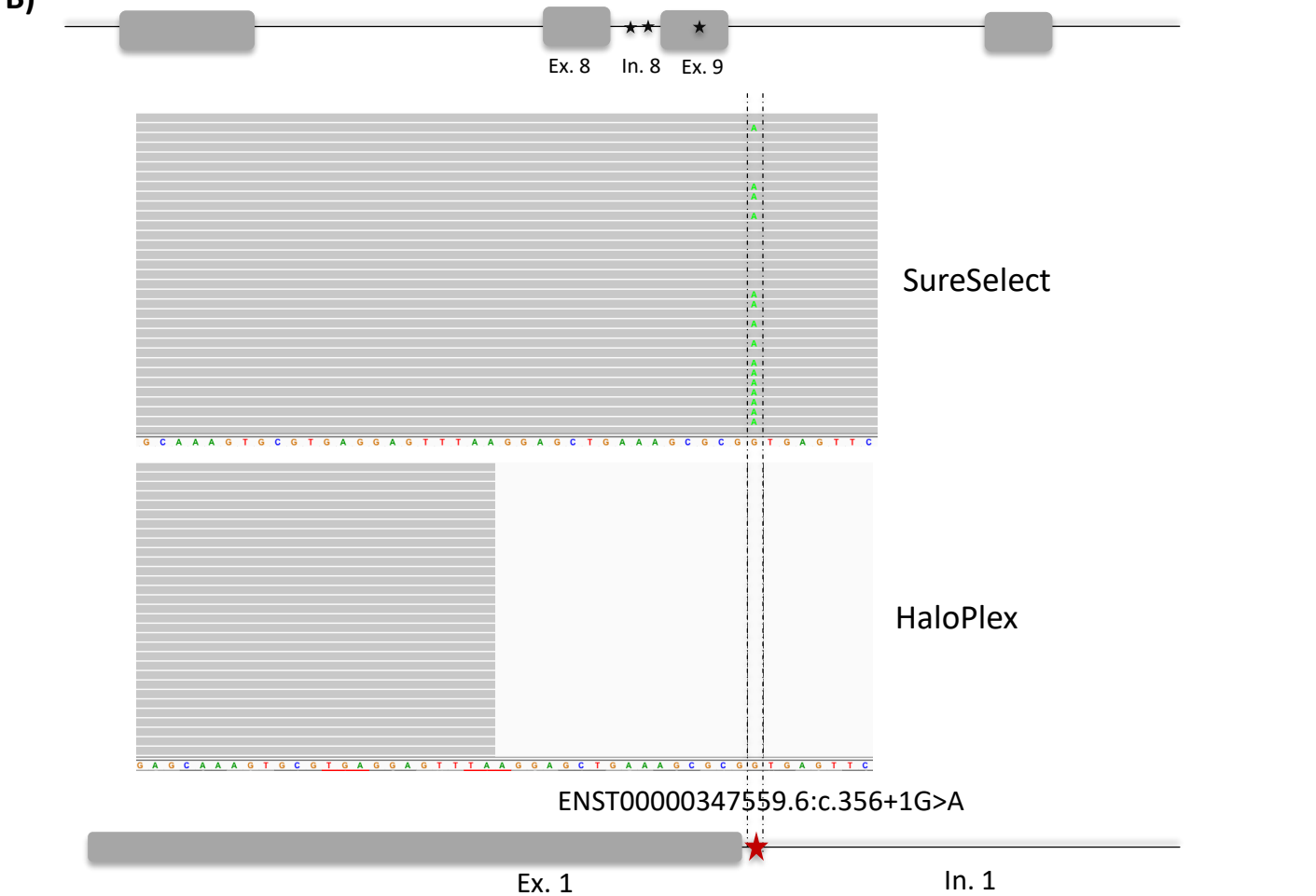
**Supplemental Figure S3:  $\text{Ca}^{2+}$  kinetics of LMNA-iPSC-CMs.**  $\text{Ca}^{2+}$  cycling was assessed with  $\text{Ca}^{2+}$ -sensitive probe Fluo4. **A:** Values for time to peak are blotted for 4 cardiac differentiations of control (n = 70), 2 differentiations for LMNA 1 (n = 35) and 3 differentiations for LMNA 2 (n = 53). **B** and **C:** The LMNA-iPSC-CMs show a physiological reaction to Isoprenaline (Iso) shown by decreased  $\text{Ca}^{2+}$  time to peak and transient decay time values after Iso stimulation (100 nM). Numbers same as in A.

# Supplemental Figure S1

A)

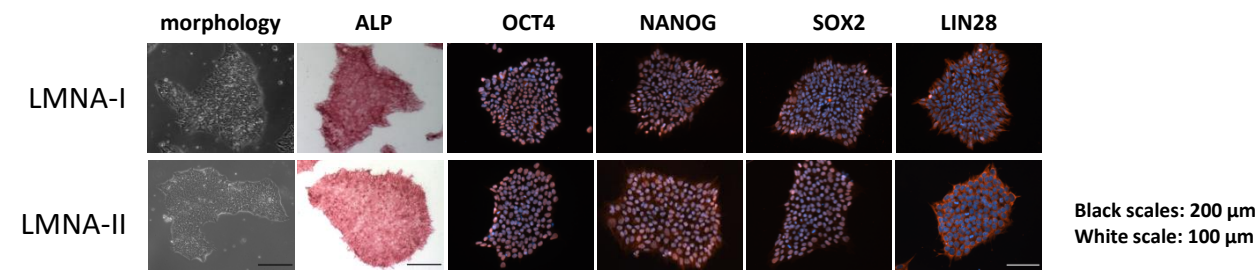


B)

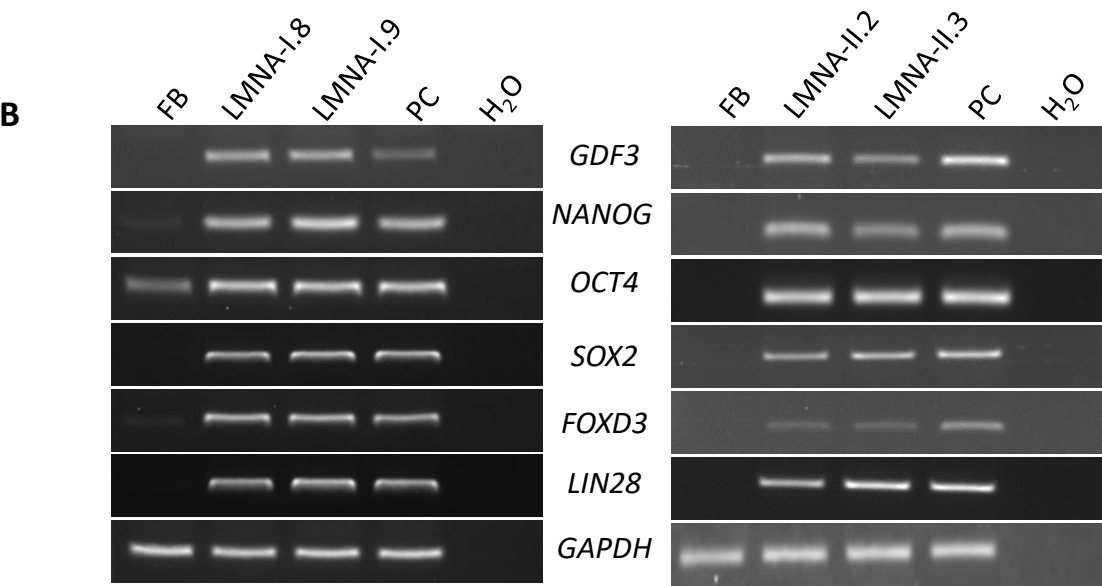


# Supplemental Figure S2

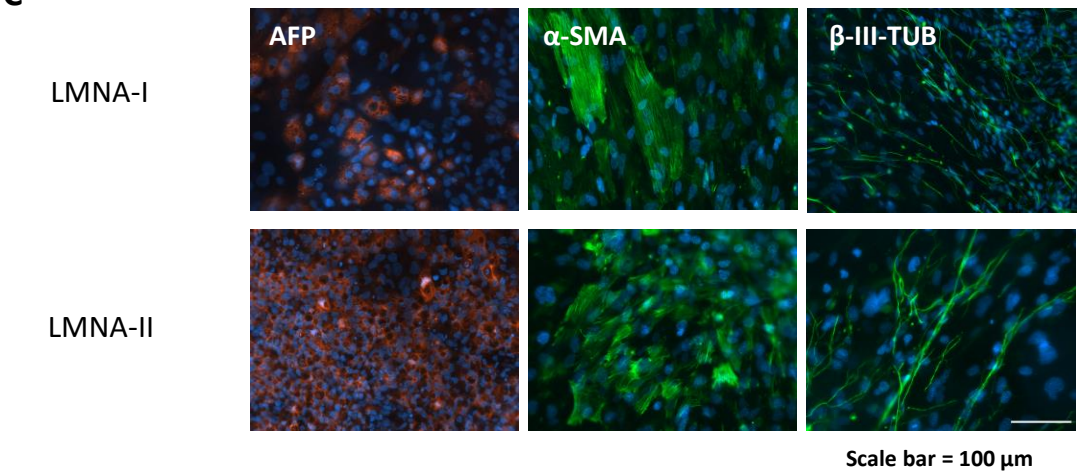
A



B

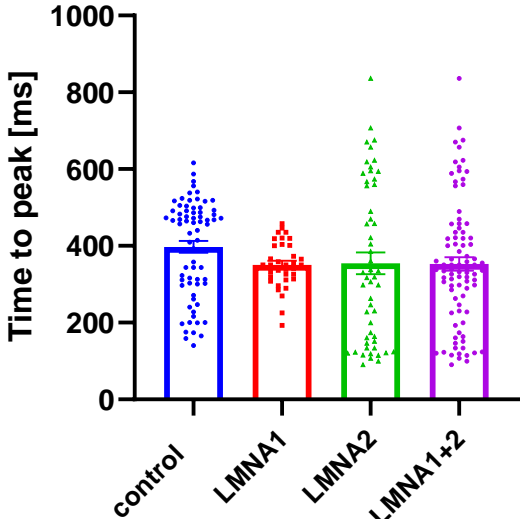


C

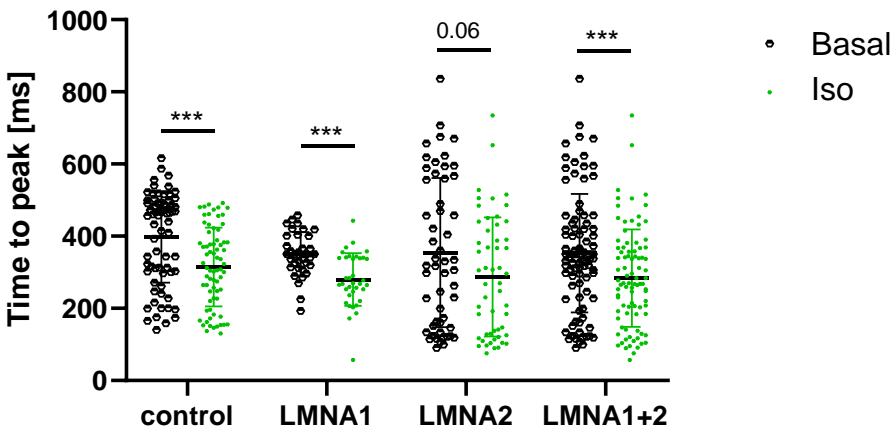


# Supplemental Figure S3

A



B



C

