Supplementary Table S1

Table S1. Baseline characteristics of donor patients

Variables	Pa1-LCλ	Pa2-LCκ	Pa3-LCκ
Clinical characteristics			
Age, years	81	66	68
Sex	Male	Male	Male
Time to diagnosis, months	38,4	9,6	9,3
Cardiovascular characteristics			
NYHA	III	II	III
Biological variables			
NT-proBNP, pg/mL (reference <1800pg/ml)	7137	620	14647
Troponin T HS, ng/mL (reference <14pg/ml)	51	40	51
Amyloid characteristics			
Light chain subtype	Lambda	Kappa	Kappa
European stage	IIIa	II	IIIb
Medullary plasma cells, %	11	30	18
dFLC, mg/L	217	NA	411
Ratio κ/λ	0.07	NA	14.40
Affected organs	Heart	Heart	Heart
Echocardiographic characteristics			
LVEF, % (normal : >50%)	62	51	43
IVST, mm (normal range : 6-11mm)	20	16	15
GLS, % (normal < -18%)	-10.3	-13.2	-7.1

NYHA: New York Heart Association; NT-proBNP: N-terminal pro-B-type natriuretic peptide; dFLC: free light-chain difference (dFLC = kappa-lambda); LVEF: left ventricular ejection fraction; IVST: interventricular septum thickness; GLS: global longitudinal strain,

Supplementary Figure S1

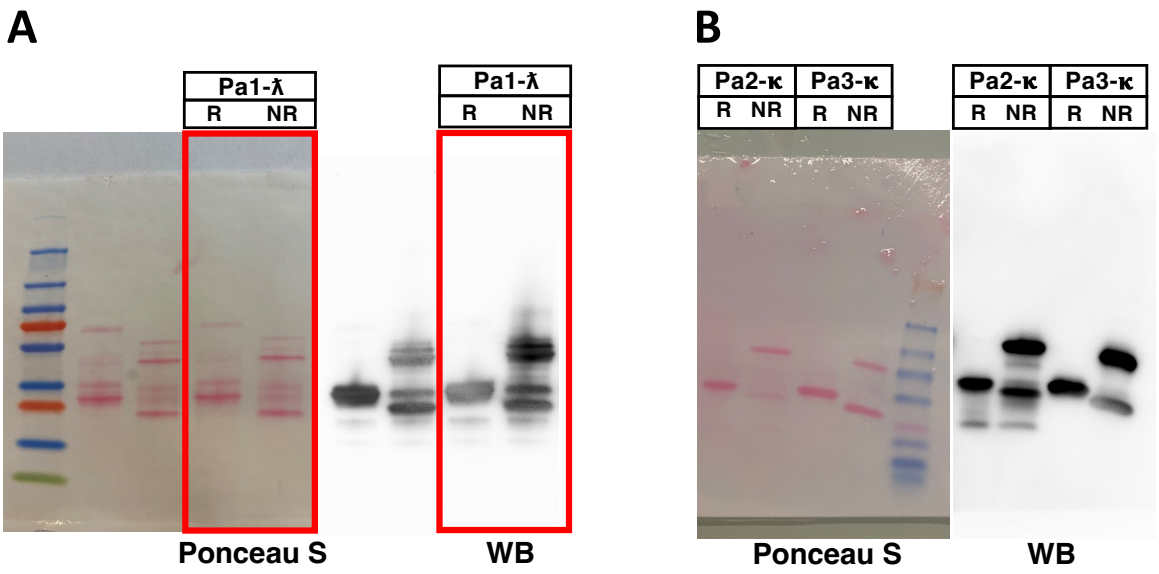

***Figure S1*.** Full-length membranes corresponding to light chain (LC) purification data shown in Figure 1B and C. **Ponceau S**, staining showing total sample proteins ; **WB**, anti-human LC western blots.

(A), Pa1-λ LC; red rectangles indicate the data corresponding to the LC preparation used in this study.

(B), Pa2-κ and Pa3-κ LC.

Supplementary Figure S2

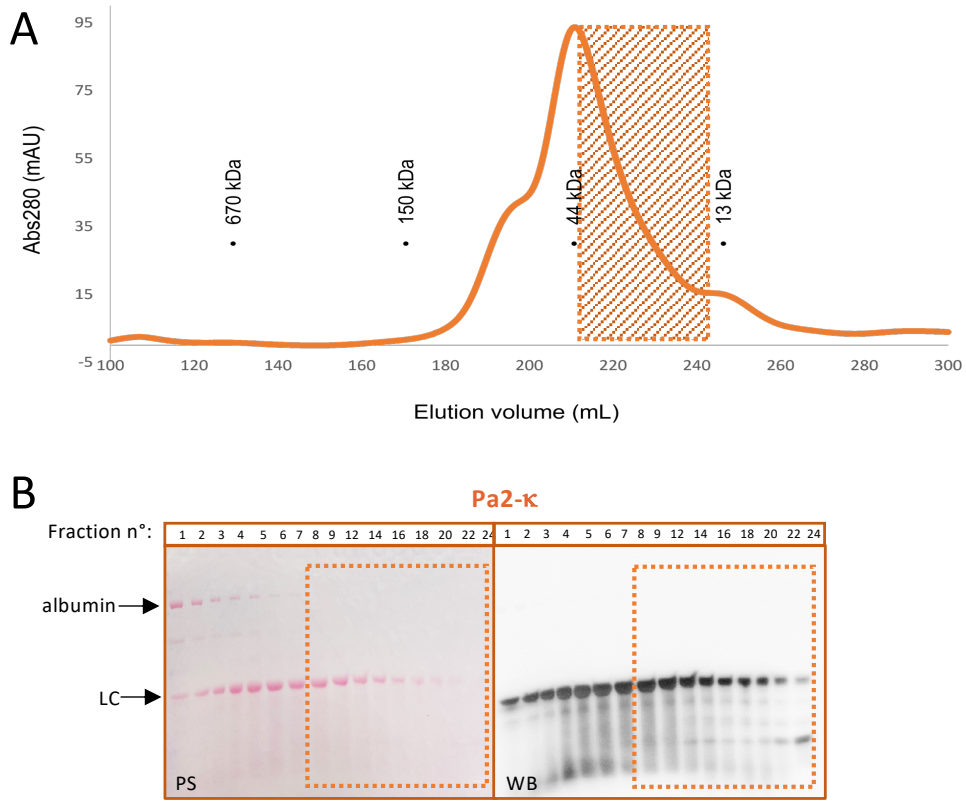

***Figure S2*.** Example of selection of LC fractions devoid of contaminants after purification by size-exclusion chromatography.

(A) Size exclusion chromatogram of Pa2-κ LC from Figure 1; striped rectangle indicates the part of LC-containing peak fractions that have been selected for final concentration and use in experiments.

(B) Ponceau S staining (PS) and western blot (WB, anti-human LC) of fractions corresponding to the LC-containing pic; selected fractions excluding albumin are indicated by dashed rectangles.

Supplementary Figure S3

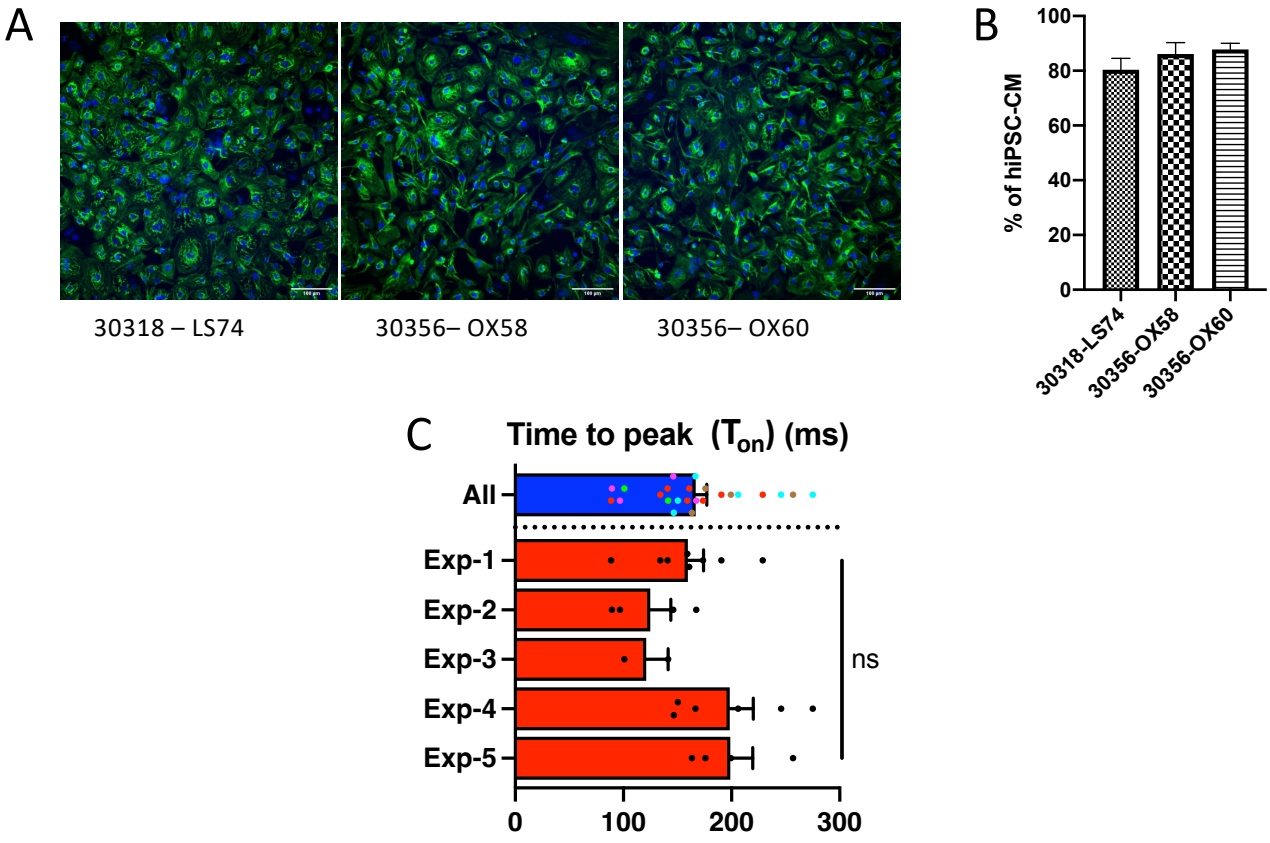

***Figure S3*.** Characterization of hiPSC derived cardiomyocytes (CM) used in this study.

(**A**) Quality control of differentiation to CMs of 2 hiPSC cell lines: **30318** (1 batch of differentiation: LS74) and **30356** (2 batches of differentiation: OX58 and OX60), as assayed by cardiomyocyte-specific **cardiac troponin T** (**c-TnT**) immunofluorescence labeling; bars, 100 µm.

(**B**) Percentage of **c-TnT** positive cells: CMs exceeded 80% of cells in all cases; n=8 field views for each batch.

(**C**) Statistical analysis of values for time to peak (T_{on}) of calcium transients in paced non-LC treated (control) spheroids from 5 independent experiments. Each experiment was performed with a newly thawed batch of hiPSC-derived CMs originating from one differentiation. All 3 batches were used through experiments. Kruskal-Wallis test combined with Dunn's multiple comparison tests were applied. No statistically significant differences among untreated spheroids (controls) were found for T_{on}, a parameter which changes after LC treatment.