

599 **S1 Fig. Necropsy of a mouse died one day after transverse aortic constriction. One**

600 *Myh11*^{E1892D/E1892D} female mouse died of ruptured left main coronary artery and associated cardiac

601 tamponade one day after TAC. Yellow arrow and a 5-0 suture show the rupture site.

602 **S2 Fig. Echocardiography and central blood pressure measurements 2 weeks after**

603 **transverse aortic constriction (TAC) in female mice. (A)** Aortic root and ascending (ASC)

604 aortic diameters. **(B)** Systolic (SBP) and diastolic (DBP) blood pressures. **(C)** Evaluation of left

605 ventricular (LV) contractile function in female mice after TAC. **(D)** Structural evaluation of LV in

606 female mice after TAC. AW, anterior wall; PW, posterior wall; d, end diastolic; s, end systolic; ns,

607 non-significant; * $P < 0.05$.

608 **S3 Fig. Wheat Germ Agglutinin (WGA) staining of left ventricular anterior wall (LVAW).**

609 There is no difference of cardiomyocyte cross-sectional area between male wild-type and

610 *Myh11*^{E1892D/E1892D} mice after TAC. ns, non-significant. ● WT TAC, ■ *Myh11*^{E1892D/E1892D} TAC.

611 **S4 Fig. Comparison of left ventricular contractile function between male and female mutant**

612 **mice 2 weeks after transverse aortic constriction (TAC).** Male *Myh11*^{E1892D/E1892D} mice exhibit

613 significantly lower ejection fraction and fractional shortening compared to female mutant mice

614 following TAC. ns, non-significant; ** $P < 0.01$.

615 **S1 Table. Total numbers of mice died after transverse aortic constriction.**

616 **S2 Table. Segregation record of 102 progenies from heterozygous breeders.**